THE CARLAT REPORT
ADDICTION TREATMENT

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CURRENT COVERAGE OF TOPICS IN ADDICTION MEDICINE

Daniel Carlat, MD
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IN THIS ISSUE

Focus of the Month:
Benzodiazepines

Learning Objectives

After reading these articles, you should be able to:

1. Define the terms dependence, tolerance, and addiction as applied to a patient's benzodiazepine use.
2. List some of the non-benzodiazepine medication options for treating anxiety in patients with substance abuse issues. **3.** Summarize some of the current findings in the literature regarding psychiatric treatment.

Medication Treatment of Anxiety Disorders in Substance Abusers

Daniel J. Carlat, MD
Publisher, The Carlat Addiction Treatment Report

Summary

- Patients with alcohol and/or drug dependence are likely to also suffer from anxiety disorders that stem from multiple causes.
- Benzodiazepines as treatment for anxiety in patients with drug dependence should be avoided when possible.
- SSRIs/SNRIs and other antidepressants are commonly prescribed as a first-line, non-benzodiazepine treatment for anxiety disorders in substance-abusing patients.

Among substance abusers, anxiety seems to be more the rule than the exception. Studies show that up to 50% of patients with alcohol dependence or drug dependence have some type of anxiety disorder (Lai HM et al, *Drug Alcohol Depend* 2015;154:1–13). But anxiety comes in many flavors other than official DSM disorders. In any given substance-abusing patient, anxiety is likely to have multiple causes, such as psychosocial stressors and substance withdrawal, in addition to discrete DSM-5 anxiety disorders. (see table

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Q&A With the Expert

Benzodiazepines: Dependence, Tolerance, and Addiction
Alex Stalcup, MD

Medical director of the New Leaf Treatment Center in Lafayette, CA

Dr. Stalcup has disclosed that he has no relevant financial or other interests in any commercial companies pertaining to this educational activity.

CATR: Dr. Stalcup, please tell us a little bit how you started in addiction medicine.
Dr. Stalcup: I started out and got certified in addiction medicine at the Haight Ashbury Free Clinic, which was run by David Smith and Darryl Inaba, who I think of as basically the founding fathers of modern addiction medicine. They had a major interest in outpatient management of sedative hypnotic dependence, and I was trained to look at these drugs very critically.
CATR: When you talk about sedative hypnotics, do you mean benzodiazepines?
Dr. Stalcup: Yes, sedative hypnotics include benzodiazepines, but they encompass other agents as well—sleeping pills like Ambien and muscle relaxants such as Soma are all essentially the same medicine. And of course, barbiturates and alcohol are also in that category as well. One good way to think of benzodiazepines is that they are literally, physiologically anyway, alcohol in a pill. Especially the fast-onset/fast-offset benzodiazepines like alprazolam (Xanax) have a very similar pharmacologic profile to alcohol.
CATR: Interesting. I certainly have heard the alcohol-in-a-pill analogy, but I think the experience of most of us is that something like a typical 0.25 mg to 1 mg dose of Xanax doesn't really feel the same as having a drink. Is that effect something that occurs with a high enough dose?

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Medication Treatment of Anxiety Disorders in Substance Abusers

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below for a list of typical causes of anxiety in substance abusers).

Common Causes of Anxiety in Substance-Abusing Patients
Substance withdrawal
Psychosocial challenges (ie, family conflict, poverty, homelessness, legal issues)
Generalized anxiety disorder
Panic disorder
PTSD
Social anxiety
Major depression with co-occurring anxiety

Lai HM et al, *Drug and Alcohol Dependence* 2015;154:1–13

While benzodiazepines are effective anti-anxiety workhorses for many patients, most guidelines tell us to avoid prescribing them to substance abusers. The concern is that the benzo high will remind patients of their substances of choice, and that benzo withdrawal symptoms will lead to old substance abuse habits. However, one review of the literature concluded that benzos can safely be prescribed for some alcoholics in recovery (Lingford-Hughes A et al, *Adv Psychiatr Treat* 2002;8(2):107–116), and that most psychiatrists are able to manage such patients by making sure that they do not escalate their doses and do not get early refills.

Psychotherapy is always an option, and it can work well. For example, a two-week pilot trial of CBT-based integrated treatment for panic disorder and alcohol abuse in 48 patients showed benefit over alcoholism treatment alone (Kushner MG et al, *J Mental Health* 2006;15(6):697–707).

But assuming that therapy has already been tried, what are some non-benzo approaches that are reasonable? Some of the most likely candidates are discussed below (for more information such as FDA-approved indications, mechanism, and recommended dosing, see our table, "Potential Antianxiety Medications for Substance-Abusing Patients," on page 7).

SSRIs/SNRIs and other antidepressants

Most substance abusers with anxiety will end up rotating through several SSRIs and SNRIs. These are robustly effective medications with few side effects. We all have our own "go to" meds. Paroxetine carries the most FDA-approved indications for disorders on the anxiety spectrum, but it also is the most likely to cause sexual dysfunction, weight gain, sedation, and drug interactions. Sertraline and escitalopram are good choices in terms of minimal side effects and few drug/drug interactions. The SNRIs, especially duloxetine and levomilnacipran, may be especially appropriate if your patient has a comorbid chronic pain condition, because both of these meds carry FDA indications for pain syndromes. The newer antidepressant vilazodone was effective for GAD in one placebo-controlled trial (Gommoll et al, *Depress Anxiety* 2015;32:451–459). You might also consider mirtazapine (Remeron), effective in a small open-label study of GAD and also helpful for insomnia. Bupropion, while not effective for anxiety disorders *per se*, is effective for anxiety when it is a symptom of depression—but watch out for its common early side effects of insomnia and jitteriness.

Buspirone (BuSpar)

Buspirone has been around a long time, and many of your patients will say they've already tried it—maybe they have, maybe they haven't. Here are two tips to optimize response. First, don't oversell it as a benzodiazepine substitute—it doesn't work as quickly or as well, and patients expecting the benzo feeling will be disappointed and will stop taking it. Second, get the dose high enough to be effective before throwing in the towel. A robust dose is 60 mg a day, either split up twice daily or three times a day. Dizziness and sedation may limit the dose.

Hydroxyzine (Atarax, Vistaril)

Some are surprised to hear that hydroxyzine has an actual FDA indication for anxiety (albeit an old one). It is effective—for example, in one large randomized placebo-controlled trial, patients with GAD randomly assigned to hydroxyzine 50 mg/day did just as well as those assigned to bromazepam 6 mg/day (bromazepam is a benzodiazepine approved in Europe; 6 mg is equivalent to about 10 mg of diazepam). Patients on the benzodiazepine experienced more sedation (Llorca PM et al, *J Clin Psychiatry* 2002;63(11):1020–1027).

Pregabalin (Lyrica)

Pregabalin is a Schedule V controlled substance (same category as cough suppressants with codeine), so it would seem an odd choice to treat anxiety in patients with substance abuse histories. Wouldn't it pour fuel on the fire? Apparently not. In fact, pregabalin has been compared with naltrexone as a *treatment* for alcohol dependence; in one small randomized controlled trial, pregabalin was as effective as naltrexone, and led to greater improvement in anxiety (Martinotti G et al, *J Psychopharmacol* 2010;24(9):1367–1374). Pregabalin's efficacy for GAD (in the absence of substance abuse) is pretty well established. Clinical trials have shown that the drug is as effective as lorazepam and alprazolam, and more effective than venlafaxine for GAD. Placebo-controlled

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Medication Treatment of Anxiety Disorders in Substance Abusers

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trials have also shown that it is more effective than placebo for patients who have had only a partial response to SSRIs or SNRIs (for a recent review of these studies, see Reinhold JA and Rickels K, *Expert Opin. Pharmacother* 2015;16:1669–1681). Start at 100 mg QHS, and gradually titrate to 300 mg BID. In addition to pregabalin's addictive properties, potential drawbacks include high rates of dizziness and sedation (20%–30% of patients), and an average weight gain of about 5 lbs after 4 weeks. There aren't any drug-drug interactions currently noted for pregabalin.

Gabapentin (Neurontin)

Gabapentin was originally used to prevent seizures as an anti-epilepsy drug. Its off-label uses include treatment for anxiety disorders as well as withdrawal from alcohol or benzodiazepines. (The drug was once also touted as a treatment for bipolar disorder, but well-designed trials discredited this use.) One small placebo-controlled trial found gabapentin (average dose 2,868 mg/day) superior to placebo for social phobia, but the response rates were low: 32% for gabapentin, 14% for placebo (Pande AC et al, *J Clin Psychopharmacol* 1999;19:341–348). For alcohol dependence, in one large double-blind trial, a rapid 4-day taper of gabapentin (from 1,200 mg/day to 800 mg/day) was more effective than a taper of lorazepam in terms of preventing relapse (Myrick H et al, *Alcohol Clin Exp Res* 2009:33(9):1582–1588. Epub 2009 May 26). Common gabapentin side effects include dizziness and sedation.

Quetiapine (Seroquel)

Quetiapine is hardly the first antipsychotic to be used or approved for anxiety. Stelazine (trifluoperazine) is approved for the short-term treatment of GAD, while Triavil (the combination of the antipsychotic perphenazine and the antidepressant amitriptyline) is approved for "depression and anxiety." In addition, many clinicians use low-dose chlorpromazine (Thorazine) off-label for anxiety. The advantage of quetiapine is that its efficacy evidence is more robust, with placebo-controlled trials of over 2,600 patients showing that the medication eases symptoms of GAD better than placebo, paroxetine, and escitalopram (for a review of these studies, see Gao K et al, *Expert Rev Neurother* 2009;9(8):1147–1158). Lower doses of quetiapine XR, 50–150 mg QD, appear to be more effective than higher doses. Quetiapine has not won FDA approval for GAD, probably because its disadvantages literally outweigh its advantages (quetiapine is one of the worst antipsychotics in terms of weight gain and metabolic disturbances).

Natural medications

Don't forget to try some of the herbal medications. While they rarely are backed up by the same quantity or quality of randomized controlled trials we expect for conventional meds, many of them have a long history of safe and presumably effective use. As covered in our July/August 2013 issue of *TCPR*, valerian root is often helpful for both sleep and anxiety. Its presumed mechanism is enhancing the action of gamma-aminobutyric acid (GABA). Typical recommended doses include 450 mg of valerian extract at bedtime for sleep, and 200–300 mg in the morning for anxiety. Valerian is quite safe, though there have been very rare cases of mild liver enzyme elevations, which normalized after stopping the extract.

CATR VERDICT: There are many non-benzo alternatives for anxiety in substance abusers. Keep rotating through the options until something works.

Expert Interview

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Dr. Stalcup: I definitely think you can get an alcohol-like buzz with a high enough dose. On the street, Xanax is sold as 2 mg "Xannie bars," and one bar will usually generate alcohol-like intoxication. Right now Xanax is fast emerging in California as a major drug of abuse. We're seeing teens taking somewhere between 8 mg and 15 mg a day—huge, huge amounts—to get that alcohol buzz feeling.

CATR: That's pretty scary. I assume the kids are not getting Xanax from their doctors?

Dr. Stalcup: No, it's a street drug now. Anyone who sells heroin or meth will deal you alprazolam.

CATR: Are most legal prescriptions for benzodiazepines originating from psychiatrists?

Dr. Stalcup: Actually, psychiatrists probably prescribe a minority of the benzodiazepines out there compared to everybody else. They're very commonly used in family practice, in general internal medicine, and most frequently prescribed by primary care doctors.

CATR: Benzodiazepines continue to be our first-line drug of choice for immediate relief of anxiety in the short term. Do you agree with this practice?

Dr. Stalcup: Benzodiazepines are the best drugs for relieving short-term anxiety and panic. The problems arise with long-term use; although sold for "short-term use," many patients receive benzos for years (including sedative-hypnotic sleeping pills, such as Ambien/zolpidem). This leads to the development of tolerance, defined by previously effective doses becoming less effective and the appearance of withdrawal symptoms if the medication is withheld. The management of tolerance/withdrawal emerges as a major therapeutic issue in long-term use. Most important is the severe complication in tolerant folks of *kindling*.

CATR: What is kindling?

Dr. Stalcup: Kindling is a process in which repeated episodes of withdrawal have the property of sensitizing target chemistry in the brain. The effect of that kindling sensitization is that withdrawals get worse and worse over time, cravings increase, and time to relapse is shortened. In the end stage of kindling, seizures, delirium, and dementia will develop (Post RM, *Epilepsy Res* 2002;50(1–2):203–219). Many patients are worked up in neurology offices for seizures, tremors, and myoclonus, when in fact what they have is benzo tolerance (Rogawski R, *Epilepsy Curr* 2005;5(6):225–230). They don't necessarily tell their doctor

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Expert Interview

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that they are drinkers or take sleeping pills and/or muscle relaxants either from shame and embarrassment, or because they don't think that what they are taking or using could be related to seizures. And sometimes the neurologists themselves aren't familiar with the kindling/seizure issue, and don't consider sedative-hypnotics to be a contributing factor (Breese GR et al, *Psychopharmacology* (Berl) 2005;178(4):367–380).

CATR: So if you're using a benzodiazepine or a sedative hypnotic several days a week, you're typically going to become tolerant to some degree.

Dr. Stalcup: Short-acting, fast-onset/fast-offset benzos produce tolerance more quickly than long-acting benzos like Librium (chlordiazepoxide) or Klonopin (clonazepam). Tolerance is almost certainly going to happen with long-term use. However, tolerance and withdrawal are not the same thing as addiction: Some individuals are dependent, but not addicted. The risk for addiction *per se* is not homogeneously distributed. We know that about 15% to 20% of people are at exceptionally high risk for addiction. But most patients given benzos for long-term uses are at very high risk of becoming dependent and tolerant; those people are often not recognized (Uhl GR, *NeuroRx* 2006;3(3):295–301, Bevilacqua L and Goldman D, *Clin Pharmacol Ther* 2009;85(4):359–361).

CATR: How can you tell if a patient is developing increased tolerance?

Dr. Stalcup: The main sign that someone's becoming sensitized to the drugs is worsening symptoms with each episode of withdrawal. We see many people who are pathologically attached to benzos because every time they try to reduce or discontinue them they get terribly anxious and panicky.

CATR: Can you speak to the differences between dependence and addiction?

Dr. Stalcup: Addiction is loss of control over use of a substance in the face of adverse consequences. I'd say that of the patients that I'm currently treating who have been viewed as addicts, about 50% are dependent on sedatives but are actually *not* addicted. They certainly are med seeking because they are frightened if they can't get their medication, but they're not drug addicts; they're physically dependent on the drug and they experience remarkable distress if they stop. These patients got dependent on medicines that were prescribed by a doctor who didn't recognize the tolerance potential, the dependence potential, and the kindling potential.

"Tolerance and withdrawal are not the same thing as addiction: Some individuals are dependent, but not addicted. We know that about 15% to 20% of people are at exceptionally high risk for addiction. But most patients given benzos for long-term uses are at very high risk of becoming dependent and tolerant; those people are often not recognized."

Alex Stalcup, MD

CATR: Are the terms dependent and tolerant interchangeable?

Dr. Stalcup: The appearance of tolerance and withdrawal define dependence. Tolerance means it takes more of the drug to get an effect than it used to. So once tolerance sets in, from that point forward, the kindling process comes to increasingly dominate the clinical picture. You see this in a lot in pain management—people who aren't addicted to a drug, but they are chemically dependent and they will go through withdrawal. A lot of these folks get put in a hospital and treated using traditional 12-step approaches as if they were addicts, but they're not drug addicts, they are dependent.

CATR: You mentioned that 20% or so of the population are more vulnerable to addiction, possibly genetically. Clinically, are there things that we can find out or ask that can help us discern this vulnerability in patients?

Dr. Stalcup: That's an important question. The main red flag is family history. People most likely to become addicted to benzos have family histories of addiction. It's a high number: About 65%–70% of addicted people have a family history. Other risk factors are previous alcohol abuse histories, and people who've been exposed over time to short-acting benzos, in particular alprazolam.

CATR: It's interesting to try to understand because certainly there are people out there that seem to be able to take or leave these agents very easily.

Dr. Stalcup: Probably most people, but the ones that trouble us are ones that this doesn't apply to.

CATR: Right. So, as a general psychiatrist, say I have a patient that was initially treated for depression or anxiety with an antidepressant and some Klonopin. Over the months, the patient continued on that low dose of Klonopin, which stretched on to a few years, and now I have someone who is clearly dependent in my office saying, "Doc, I want to get off of this." Rather than recommended a 12-step program or a rehabilitation clinic, how do we help get these types of patients off benzodiazepines?

Dr. Stalcup: The process is not a casual one, but it is very doable. The key to getting a patient off benzos is switching from an as-needed, "prn" dosing schedule, to a fixed daytime schedule that will lead to steady state brain levels of the drug. It has to be done meticulously with symptom scoring and vital signs monitoring to prevent the development of withdrawal symptoms.

CATR: Can you give me an example?

Dr. Stalcup: If the patient is taking a short-acting benzo, like alprazolam, we usually switch them to Librium or phenobarbital because they are longer acting and allow for a smoother taper; steady-state is achieved within three to five days. We adjust the dose until we eliminate all withdrawal symptoms without causing sedation. So if they're hypertensive or shaky or anxious or can't sleep, we will add doses to reduce symptoms and maintain diastolic blood pressure and pulse below 90 (we call it the "90 and 90 rule"). We familiarize the patients with the sedative hypnotic withdrawal assessment key. We'll often equip them with an automated blood pressure cuff if they don't have one so they'll be able to track this at home. Once you've done the 10 days to

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Commonly Prescribed Benzodiazepines: A Comparison Chart

Generic (Brand) Approval Date	FDA Approval for Psychiatric Indications[1]	Tablet or Capsule Strengths	Average Dosage Range for Anxiety	Equivalent Dose (to lorazapam 1 mg)	Onset of Action After Oral Dose	Half Life (Hours)	Clinical Duration of Action (Hours)[2]	Notes
Alprazolam (Xanax) 1981	• Anxiety • Panic disorder	0.25 mg, 0.5 mg, 1 mg, 2 mg; orally disintegrating tablet: 0.25 mg, 0.5 mg, 1 mg, 2 mg; oral solution: 1 mg/ml	1–4 mg/day	0.5 mg	30 min	11–16	3–4	High abuse potential; some possibility of rebound anxiety if doses are spaced too far apart
Alprazolam XR (Xanax XR) 2003	• Panic disorder	0.5 mg, 1 mg, 2 mg, 3 mg	1–4 mg/day	0.5 mg	1–2 hours	11–16	10	
Chlordiazepoxide (Librium) 1960	• Anxiety • Alcohol withdrawal • Preoperative anxiety	5 mg, 10 mg, 25 mg	15–100 mg/day	25 mg	2 hours	> 100	4–6	Often used for alcohol withdrawal; use caution in the elderly because of long half-life and active metabolites
Clonazepam (Klonopin) 1975	• Panic disorder • Seizure disorder • Periodic leg movement • Neuralgia • Anxiety	0.5 mg, 1 mg, 2 mg; orally disintegrating formula: 0.25 mg, 0.5 mg, 1 mg, 2 mg	0.5–2 mg/day	0.25 mg–0.5 mg (sources differ on dose equivalence of clonazepam)	1 hour	20–80	6–8	
Diazepam (Valium) 1963	• Anxiety • Alcohol withdrawal • Adjunctive therapy for seizure disorders, status epilepticus • Muscle spasms • Procedural or preanesthesia sedation	2 mg, 5 mg, 10 mg; oral solution: 5 mg/ml, 5 mg/ml; injection: 5 mg/ml	5–40 mg/day	5 mg–10 mg (sources differ on dose equivalence of diazepam)	30 minutes	> 100	4–6	Works quickly and has a long duration of action clinically; use caution in the elderly because of long half-life and active metabolites
Lorazepam (Ativan) 1977	• Anxiety • Chemo-related nausea/vomiting • Injectable form: epilepsy, preanesthesia	0.5 mg, 1 mg, 2 mg; oral solution: 2 mg/ml; injection: 4 mg/ml, 2 mg/ml	1–4 mg/day	1 mg	30–60 minutes	10–20	4–6	No active metabolites
Oxazepam (Serax) 1965	• Anxiety • Alcohol withdrawal	10 mg, 15 mg, 30 mg	30-120 mg/day	15 mg	2–4 hours	5–14	information not available	No active metabolites; capsule only
Temazepam (Restoril) 1981	• Insomnia	7.5 mg, 15 mg, 22.5 mg, 30 mg	15–30 mg/day	15 mg	30–60 minutes	10–20	4–6	No active metabolites, used as a sedative and tranquilizer for sleep; capsule only

[1]Many benzodiazepines were approved before DSM III, and were therefore indicated for a miscellaneous array of anxiety disorders that are labeled differently in modern parlance. Most of these "anxiety" indications would correspond either to generalized anxiety disorder or for the short-term relief of anxiety symptoms.
[2]This is the answer to a patient's question, "How long will it last?" assuming prn dosing. When dosed chronically, duration of action will usually be longer due to accumulation.

Research Updates

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Dr. Moore has disclosed that he has no relevant financial or other interests in any commercial companies pertaining to this educational activity.

MARIJUANA

Synthetic THC and Antihypertensive Provide Little Benefit for Cannabis Dependence

(Frances L et al, *Drug and Alcohol Dependence,* 2016;159:53–60)

Second only to alcohol, marijuana is the most common reason people enter substance abuse treatment. And unlike alcohol dependence, there are virtually no effective medications available for those addicted to it. It's not from a lack of trying. A recent review of 14 drug studies for cannabis dependence revealed little benefit from antidepressants, anticonvulsants, or anxiolytics. The only glimmer of hope came from studies using tetrahydrocannabinol-based concoctions, which are effective in some studies that use it as substitution treatment. Researchers from Columbia University set out to test the effectiveness of combining dronabinol, a synthetic form of THC, and lofexidine. Lofexidone is an alpha 2 agonist, structurally similar to clonidine, that is available in the United Kingdom, where it is used both for hypertension and opiate withdrawal symptoms.

One hundred twenty two cannabis-dependent adults were randomized to receive dronabinol and lofexidine or placebo. Patients had used an average of 1.65 grams daily over the past month, which is roughly the equivalent of smoking 2 joints per day—an average joint contains 0.5 g to 1 g of marijuana (Inaba DS, Cohen WE. *Uppers, Downers, All Arounders: Physical and Mental Effects of Psychoactive Drugs*, 8th ed. Medford, OR: CNS Productions, Inc; 2014). In addition to medications, all patients received weekly cognitive-behavioral therapy (CBT) related to their cannabis use; therapy focused on motivational enhancement and relapse prevention. Medications were gradually increased during the first 2 weeks of the study to an average dose of 55.6 mg/day for dronabinol and 1.28 mg/day for lofexidine. Once a stable dose was reached, patients were followed on the medications for an additional 6 weeks.

After an average of 6 weeks of treatment at a stable dose, there were no differences between groups with regard to abstinence, easing withdrawal symptoms, or the proportion of patients who finished treatment. Overall, half of patients decreased cannabis use by 50% or more. The authors attributed this improvement to CBT, which all subjects received. This is not surprising as CBT has been shown to be effective for cannabis use disorder (Copeland J et al, *Journal of Substance Abuse Treatment*, 2001;21:55–64).

CATR's Take: We are no closer to finding a viable pharmacological answer to cannabis dependence. This is concerning since nearly 20 million Americans over the age of 12 used marijuana within the past month. Continuing the search is important, and with time, it's likely that options will become available. In the meantime, for those patients who want or need to quit, referral for CBT appears to be the best choice.

OPIOIDS

When Physicians Become Addicted: How Well Do Treatment Programs Work?

(Merlo L et al, *Journal of Substance Abuse Treatment*, 2016;64:47–54)

When physicians are diagnosed with opioid or other drug dependence, they are required to receive treatment from special physician health programs (PHP) if they want to keep their medical licenses. Unlike treatment programs for the general population, PHPs do not use opiate agonists, such as methadone or buprenorphine. The rationale is that physician use of such agents would put their patients at risk. Therefore, PHPs rely on psychosocial treatments such as individual and group therapy. How well do such programs work?

Researchers reviewed five years of charts for 702 physicians admitted to 16 different PHPs. None of the programs offered opiate agonist treatment. Instead, the physicians were required to attend a psychosocial-based abstinence program, usually consisting of psychoeducation; individual, group, family, and recreational therapy; and 12-step programs. They were also required to abstain from the use of mood-altering substances, submit to urine drug screens, and agree to a five-year monitoring period. The physicians fell into one of three substance use categories: alcohol use only (n = 204), opioid use with or without alcohol (n = 339), and non-opioid drug use with or without alcohol (n = 159).

These programs worked remarkably well. For example, among the opiate users, over three-fourths of physicians remained opioid free during the monitoring period, which lasted an average of slightly over four years. Only about 1 in 10 physicians lost their license (or were not licensed for some unknown reason) to practice medicine. The three addiction categories did not differ in number of positive drug screens or completion of treatment contracts.

CATR's Take: Abstinence-based treatment programs can work remarkably well, at least for addicted physicians who are highly motivated to succeed in treatment, at the risk of losing their livelihoods. It's not clear how well such programs would work for nonphysicians. But it seems likely that important lessons can be learned from PHPs as we seek better treatment programs for our addicted patients.

Expert Interview

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two weeks or so of getting them onto steady state at a comfortable level, you begin the process of a symptom-guided taper.

CATR: How do you do that taper?

Dr. Stalcup: It is basically in the range of about a 10% taper per week. Much above a 10% decrease, and patients begin to develop increased pulse, blood pressure, tremor, sweats, shakes, very similar to an alcohol withdrawal syndrome. We establish a rate and amount of taper to prevent recurrence of withdrawal symptoms.

CATR: So they can do this at home; how often do you have these patients come back into the office?

Dr. Stalcup: We will usually see them on average each week or every two weeks. They bring us the information on their vitals

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CE/CME Post-Test

To earn CE or CME credit, you must read the articles and log on to www.CarlatAddictionTreatment.com to take the post-test. You must answer at least four questions correctly to earn credit. You will be given two attempts to pass the test. Tests must be taken by May 31, 2017. As a subscriber to *CATR,* you already have a username and password to log on www.CarlatAddictionTreatment.com. To obtain your username and password or if you cannot take the test online, please email info@thecarlatreport.com or call 978-499-0583.

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Below are the questions for this month's CE/CME post-test. This page is intended as a study guide. Please complete the test online at www.carlataddictiontreatment.com. Note: Learning objectives are listed on page 1.

1. What is the initial goal of the substitution-taper method of benzodiazepine detox? (Learning Objective #1)
   [ ] a. To reduce medication use by 10% each week
   [ ] b. To get patients on an as-needed dosing schedule
   [ ] c. To establish steady state with the substitution medication
   [ ] d. To determine if patient are truly dependent or just tolerant

2. Recent trials have shown that which of the following medications for treating anxiety is more effective than placebo for patients who have had only a partial response to SSRIs or SNRIs? (LO #2)

   [ ] a. Pregabalin [ ] b. Lorazepam [ ] c. Alprazolam [ ] d. Venlafaxine

3. Kindling is the result of repetitive withdrawal episodes that sensitize the brain target chemistry, leading to worsening withdrawal over time. (LO #1)
   [ ] a. True [ ] b. False

4. Which non-benzodiazepine alternative for treating anxiety carries the most FDA-approved indications, but is also the most likely to cause side effects such as sexual dysfunction, weight gain, and sedation? (LO #2)
   [ ] a. Escitalopram [ ] b. Paroxetine [ ] c. Sertraline [ ] d. Levomilnacipran

5. In a recent study using medication and cognitive-behavioral therapy to decrease cannabis dependence, half of 122 patients decreased cannabis use by 50% or more after an average of 6 weeks of treatment. What did the authors of the study attribute this improvement to? (LO #3)
   [ ] a. A combination of dronabinol and lofexidine [ ] b. Dronabinol alone
   [ ] c. Lofexidine alone [ ] d. Weekly cognitive-behavioral therapy

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Potential Antianxiety Medications for Substance-Abusing Patients

Medication	FDA-Approved Indications	Mechanism	Recommended Daily Dosage (for SSRIs and SNRIs, representative meds are listed)
SSRIs	Varies with medication. Includes depression, GAD, OCD, panic disorder, social anxiety disorder, PTSD, and others	Serotonin reuptake inhibitor	Paroxetine: 20 mg–60 mg Sertraline: 50 mg–200 mg Escitalopram: 10 mg–20 mg
SNRIs	Varies with medication. Includes depression, GAD, OCD, panic disorder, social anxiety disorder, PTSD, and others	Serotonin and norepinephrine reuptake inhibitor	Duloxetine: 40 mg–120 mg Venlafaxine XR: 75 mg–225 mg
Buspirone (BuSpar)	Generalized anxiety disorder	Serotonin 5HT1A receptor partial agonist	30 mg–60 mg
Gabapentin (Neurontin)	Epilepsy; post-herpetic neuralgia; restless leg syndrome	Possible: Modulator of GABA	300 mg–900 mg
Hydroxyzine (Atarax, Vistaril	"Symptomatic relief of anxiety and tension associated with psychoneurosis" (1956 terminology)	Antihistamine	25 mg–100 mg
Pregabalin (Lyrica)	Postherpetic neuropathy; diabetic neuropathy; fibromyalgia (GAD in Europe but not in U.S.)	Possible: GABA reuptake inhibitor	100 mg–600 mg
Natural medications (Valerian)	Not FDA approved	Possible: Modulator of GABA	200 mg–450 mg in the morning
Quetiapine (Seroquel)	Schizophrenia; bipolar disorder; major depression as adjunct	Dopamine D2 and serotonin 5HT2A antagonist	50 mg–800 mg

This Month's Focus: **Benzodiazepines**

Next month in *The Carlat Addiction Treatment Report:*
Motivational Interviewing

THE CARLAT REPORT:
ADDICTION TREATMENT
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Expert Interview
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or they send it to us by email. And there's always someone on call to help them with rough patches.

CATR: So you've had good results with your patients feeling okay during the process as long as they stay steady at the 10% taper?

Dr. Stalcup: Correct, they feel fine. They don't feel medicated during that time; they just feel normal. That's true even for folks who've been on benzos for years and years, even elderly patients who've been on Xanax for 40 years. Using the symptom-guided approach, they're comfortable throughout the taper.

CATR: How long does it take until they are safely off?

Dr. Stalcup: That depends on the initial steady-state dose. The higher it is, the longer it will take to taper. We've had people who necessitated 12 months of taper.

CATR: Are there cases in which you just can't get a patient to taper for whatever reasons?

Dr. Stalcup: Yes, we have patients we can't get to taper any further, without precipitating withdrawal symptoms. With enough experience, we know we can actually maintain them comfortably on a fixed dosing schedule usually with a morning and evening dose, and sometimes just a bedtime dose of 25 mg or 50 mg of Librium.

CATR: That's good to know. Thank you very much for your time, Dr. Stalcup.

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