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CURRENT COVERAGE OF TOPICS IN ADDICTION MEDICINE

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Editor-in-Chief

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IN THIS ISSUE

Focus of the Month:
Opioid Addiction

Learning objectives for this issue: **1.** Describe the legal and ethical obligation of healthcare professionals to obtain informed consent from patients before initiating any medical care. **2.** Explain some of the differences between methadone and buprenorphine when used to treat opioid addiction. **3.** Summarize some of the pros and cons of using extended-release, injectable naltrexone (Vivitrol) to treat opioid addiction. **4.** Evaluate some of the current research regarding addiction.

Informed Consent in Opioid Addiction Treatment: An Ethical Obligation

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

Informed consent—whether it be for psychotherapy, prescribing a medication, or performing a surgical procedure—is an ethical principle firmly established in law and medicine.

While there has been no formal research on this subject, my experience suggests that many addiction treatment programs fail to obtain valid informed consent. The starkest example occurs in the treatment of opioid addiction, where the practices and beliefs of clinicians often differ markedly from the evidence regarding effective treatments.

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Summary

- To obtain informed consent, providers need to fulfill three criteria: capacity, disclosure, and voluntariness.
- To fulfill legal requirements, providers must present patients with all information a "reasonable" or "prudent" person would want to know to make healthcare decisions.
- When it comes to the treatment of opioid addiction, conflicts can occur between clinicians' practices and beliefs and the scientific evidence on effective treatments.

Q&A With the Expert

Methadone versus Buprenorphine

Gavin Bart, MD, PhD, FACP, FASAM

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

CATR: Dr. Bart, how does the disease of opioid addiction behave over time?

Dr. Bart: Opioid addiction has a pretty grim prognosis if left untreated. Studies have shown that almost universally, without some form of ongoing treatment, people return to drug use. One survey of about 100,000 opioid addicts found they have a 15 times greater likelihood of death (Degenhardt L et al, *Addiction* 2011;106(1):32–51). Opioid addicts are also at greater risk for contracting hepatitis C, HIV, and superficial infections of the skin, as well as more serious infections like endocarditis. They are also more likely to be incarcerated. Basically one out of two people who use heroin are addicted to it. For alcohol, it is about one out of 20 (*National Survey on Drug Use and Health;* http://bit.ly/1naamLa).

CATR: How did methadone become the treatment of choice for opioid addiction?

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Informed Consent in Opioid Addiction Treatment: An Ethical Obligation

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What is Informed Consent?

Informed consent refers to the collaborative process that a provider and patient go through to develop a treatment plan for the patient's problems. This moral requirement is based on the principle of respecting a person's autonomy, that is, their right "to hold views, to make choices, and to take actions based on their values and beliefs" (Beauchamp TL & Childress JF. *Principles of Biomedical Ethics, 7th ed.* New York: Oxford University Press, 2013:122–123).

Valid consent fulfills three criteria (Grimm DA, *N M Law Rev* 2007;37(1):39–83). First, the patient needs to have decision-making capacity. Capacity, in a medical context, refers to patients' ability to understand information, appreciate their situation, use reason to make a decision, and communicate their choices (Applebaum PS, *N Engl J Med* 2007;357(18):1834–1840). This is referred to as the "capacity" criterion.

Second, the provider needs to present the full range of available treatment options based on current scientific knowledge. During this discussion, he or she needs to outline the risks and benefits of these various options and what could be reasonably expected if the patient declines treatment altogether. This is called the "disclosure" criterion.

Finally, valid consent requires that patients are free from coercion—that is, they are in a position to voluntarily choose any treatment option that they feel is best for them. This is described as the "voluntariness" criterion.

A provider has failed to obtain valid informed consent if any of these elements are missing.

Legal Standards

Legal requirements for consent have evolved over centuries. Until relatively recently, courts used a physician-oriented point of view: the physician was required to provide information he or she felt was in the patient's best interests. This resulted in practices such as informing a spouse, but not the patient, of a terminal disease. In other cases, providers deliberately omitted certain treatment options from their discussions with patients because of their personal beliefs or biases against them.

Through a series of court decisions, a new standard, the "reasonable person" or "prudent person" standard, emerged. Providers are now expected to present patients with information that a reasonable or prudent person would want to know in order to make healthcare decisions (Berg JW et al. *Informed Consent: Legal Theory and Clinical Practice, 2d ed.* New York: Oxford University Press, 2001:48).

In clinical practice, a provider is not allowed to withhold information from a patient based on his or her judgment that one treatment is better than another. The provider is thus required to present the scientific evidence supporting available treatment options, the expected outcomes of these various treatments, and the clinician's recommendation for the patient and the rationale for it. This recommendation also needs to take into account any patient-specific features that factored into the provider's decision-making.

This means that clinicians are legally obligated to provide information that they may prefer to withhold. The purpose of informed consent, however, is not to "conveniently promote a treatment plan; it requires informing patients with the recognition that they may disagree with a recommended treatment plan and retain the authority to do so" (Berg et al, *op.cit*).

There is also an important distinction between the actual process of obtaining autonomous authorization for a treatment or procedure and institutional requirements that patients sign informed consent documents. Patients frequently sign such documents in the absence of true informed consent (Beauchamp & Childress, *op.cit*).

Evidence-Based Treatment

Providers are obligated to summarize the scientific data concerning the effectiveness of various treatment options. The only treatment with consistent, strong evidence of effectiveness for opioid addiction is indefinite opioid maintenance therapy with either buprenorphine or methadone (Mattick RP et al, *Cochrane Database Syst Rev* 2014;2:CD002207).

Currently, the World Health Organization, US Centers for Disease Control and Prevention, US Department of Health and Human Services, and many other agencies and organizations recommend methadone and buprenorphine maintenance as first-line treatments.

In contrast, there is no evidence commending drug-free (or so-called abstinence-based) treatments (Mayet S et al, *Cochrane Database Syst Rev* 2005;1:CD004330). Moreover, there is good evidence that psychosocial or intensive behavioral approaches fail to improve outcomes compared to minimal drug counseling in patients receiving opioid maintenance therapy (Amato L et al, *Cochrane Database Syst Rev* 2011;10:CD004147; Fiellin DA et al, *Am J Med* 2013;126(1):74.e11–17).

Naltrexone is the only other medication that has been approved by the FDA for opioid addiction. Oral naltrexone (ReVia) is ineffective (Minozzi S et al, *Cochrane Database Syst Rev* 2011;4:

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Informed Consent in Opioid Addiction Treatment: An Ethical Obligation

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CD001333) and the efficacy of extended-release, injectable naltrexone (Vivitrol) was established in just a single, industry-sponsored study conducted in Russia, where buprenorphine and methadone are not legally available (Krupitsky E et al, *Lancet* 2011;377(9776):1506–1513).

Presently, evidence for Vivitrol's effectiveness is limited and generalization of clinical trial data to other countries is questionable. (For more, see "Vivitrol: Another Option for Opioid Addiction?" on p. 5.)

Meeting the Capacity Criterion

In addiction treatment, patients who are experiencing severe withdrawal symptoms may not have capacity due to pain and emotional distress. Other confounders include co-occurring mental disorders and cognitive impairment associated with prescribed medications and substances of abuse. Although beyond the scope of this article, simple bedside instruments allow providers to evaluate and easily document a patient's decision-making capacity (Tunzi M, *Am Fam Physician* 2001;64(2):299–306).

Meeting the Disclosure Criterion

Providers need to have a clear understanding of available treatment options and the scientific evidence supporting each one, so they can meet their obligation concerning disclosure.

This article's brief summary may serve as a starting point. Standard textbooks are also a ready source of such information (eg, Strain EC & Stitzer ML eds. *The Treatment of Opioid Dependence.* Baltimore, MD: Johns Hopkins University Press, 2006). In addition, a number of plain language resources geared toward patients are available (eg, http://1.usa.gov/1ibCKou).

Providers need to present patients with more than their program's philosophy or even the community standard of care. Remember, the standard for disclosure is what a reasonable or prudent patient would want to know, not a narrow presentation concerning usual care or the provider's personal preferences.

In the case of opioid addiction, this means summarizing the scientific data on the effectiveness of treatment options. This is a fiduciary duty that trumps the clinician's personal preferences and their program's philosophy of care.

Meeting the Voluntariness Criterion

Providers need to be very sensitive to overt, and more subtle covert, coercion when discussing treatment options with patients. Many people presenting for substance use treatment are subject to significant coercion from the legal system, employers, and families. Thus, we need to ensure that consent is truly voluntary and that we are not using coercion to impose our own views concerning treatment upon patients.

This ethical obligation may require advocating for a treatment option different than what a judge, probation officer, employer, or family prefers or recommends.

CATR'S TAKE: Addiction treatment has historically been very prescriptive and patients often had little choice about the care that they received. This article is a good reminder that providers have an affirmative duty to obtain informed consent and engage patients in shared decision-making.

Expert Interview

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Dr. Bart: There is a myth that methadone was invented by the Nazis and that its original brand name, Dolophine, was a tribute to Adolf Hitler, but that's not true. It was first synthesized by the Germans in 1937 and found to reduce pain, but was not developed further. It was rediscovered after the war by Allied scientists who had the rights to German patents. Methadone was brought back to the US in 1946, tried in humans, and found to help relieve symptoms of morphine withdrawal. And so quite quickly, it became part of the standard protocol for detoxifying heroin and morphine addicts. In 1964, the first experiments using methadone for ongoing maintenance for opioid addicts were conducted, under the hypothesis that they have some sort of metabolic deficiency (Dole VP & Nyswander M, *JAMA* 1965;193(8):646–650). The results were very dramatic and led to rapid expansion of methadone from the 1960s up to what we have today.

CATR: What do we know about methadone's efficacy?

Dr. Bart: Methadone leads to significant reductions in criminal activity, decreases in the transmission of HIV and viral hepatitis, relief of opioid withdrawal and cravings, and takes away the urge to continue using opioids. In terms of treatment outcomes, we see that in well-run methadone programs, one-year retention in treatment is about 60%–70%, and at any given time perhaps 20% of the urines being tested for opioids may be positive. In comparison to other chronic diseases, such as major depression or hypertension, the percentages of clinically-defined outcomes are comparable.

CATR: How does this compare to psychosocial interventions without the use of medications?

Dr. Bart: The Cochrane Collaboration did a meta-analysis of behaviorally-oriented studies for opioid addiction, and couldn't find sufficient evidence to support the effectiveness of behavioral interventions alone for opioid addiction (Mayet S et al, *Cochrane Database Syst Rev* 2005;1:CD004330).

CATR: What do we know about buprenorphine's efficacy?

Dr. Bart: Buprenorphine (Subutex, Suboxone, Zubsolv) was approved in the US as a maintenance treatment for opioid addiction in 2003. All indications are that its efficacy is analogous to methadone: reductions in transmission of HIV and viral hepatitis, relief of withdrawal, relief of cravings, reduction in drug use, and fairly good retention in treatment. There is potentially a slight difference between the two drugs related to buprenorphine's "ceiling effect," the result of being a partial agonist.

CATR: How do the doses of buprenorphine and methadone compare?

Dr. Bart: The maximum dose of buprenorphine is somewhere between 28 and 32 milligrams per day, although most patients take much less than that. It's estimated that this is equivalent to 70 to 80 milligrams of

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Expert Interview

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methadone, although we don't exactly know. Half of methadone users in the US take about 80 milligrams. For those who need a higher dose, this may mean that even a maximum dose of buprenorphine might not be effective. In these cases, it would be appropriate to switch them to methadone so the dose can continue to be escalated until benefit is seen.

The majority of patients who stop taking medications will return to opioid use within two years of stopping.

Gavin Bart, MD, PhD, FACP, FASAM

CATR: How are they different from a clinical standpoint?

Dr. Bart: The big difference isn't so much the pharmacology of the drugs—methadone is a full agonist; buprenorphine is a partial agonist. In real-world, clinical settings the differences are more regulatory: getting access to methadone is so much harder than buprenorphine. Methadone also carries a lot of social stigma. There are some people who would do well on methadone, but they are adamant that they will never try it. Methadone as a maintenance treatment for opioid addiction can only be received in specially licensed opioid treatment programs [OTPs], whereas buprenorphine can be prescribed by any physician who has a supplemental DEA [Drug Enforcement Administration] certification, which you can get by completing an eight-hour CME course.

CATR: If you can prescribe both medications, how do you go about picking one over the other?

Dr. Bart: There haven't been any great studies to predict who is going to do well on one medication versus the other. If you have someone who is psychiatrically or medically ill, who is abusing other drugs, or who has some psychosocial instability, that patient may benefit from the structure of more frequent visits. An OTP, where patients have to come quite regularly, may allow greater levels of support than going to a primary care physician's office for buprenorphine. If I feel that they need to be seen frequently, then methadone programs provide for those frequent contacts and visits.

CATR: Do patients switch back and forth between the two medications?

Dr. Bart: Yes, sometimes. Because buprenorphine is a partial agonist, it binds to the mu-opioid receptors with very high affinity—much higher affinity than methadone. Yet, it has less activity at those receptors than methadone. Providing buprenorphine to someone who has methadone still at those receptors has the potential to precipitate withdrawal. So the transition from methadone to buprenorphine has to be done cautiously. Transitioning from buprenorphine to methadone, on the other hand, can be done very seamlessly. Once patients are no longer taking buprenorphine, it dissociates from the receptors and disappears. Of course, these medications have to be titrated carefully because we don't have exact dose equivalences, but it's a lot easier to go from buprenorphine to methadone than the other way around.

CATR: Are there common reasons for switching?

Dr. Bart: Sometimes patients transition between medications based on personal preference. They may be tired of having to go to a methadone clinic as frequently as the federal government requires, or they would prefer to see their counselors less frequently. Also, there is this belief that tapering off of methadone is incredibly difficult, whereas tapering off buprenorphine is very easy. So a patient who eventually wants to stop taking medication may ask to transition from methadone to buprenorphine to help facilitate getting off medications completely. But there aren't really data to support that idea. For both methadone and buprenorphine, discontinuation has to be done gradually and carefully with ongoing assessment of the patient's symptoms. Ultimately, the relapse rate following tapers from either methadone or buprenorphine is exceedingly high.

CATR: Do side effects ever motivate transitions in care or warrant switching from one medication to the other?

Dr. Bart: There are some concerns in men about erectile dysfunction related to methadone (Hallinan R et al, *J Sex Med* 2008;5(3):684–692). The data are very mixed on this. Another factor is drug interactions. For example, methadone and some antiretroviral medications for HIV interact in such a way that methadone is metabolized more rapidly and patients can go into early withdrawal. The methadone dose can be adjusted to try to compensate for that. These same drugs will interact with buprenorphine, but clinically apparent consequences are less likely because norbuprenorphine, the metabolite of buprenorphine, is also active.

CATR: What do we know about the duration of therapy?

Dr. Bart: If we look at multiple studies both for methadone and buprenorphine, medications work while a patient is taking them and when the dose is adequate, and they stop working when a patient stops taking them. The majority of patients who stop taking medications will return to opioid use within two years of stopping. This is the case for short-term detoxification, defined as anywhere up to 30 days; interim maintenance, which is several months of treatment to allow patients to reach some form of psychosocial stability before stopping medications; or even for years of treatment before the patient decides to stop taking medications (Gossop M et al, *Br Med J (Clin Res Ed)* 1987;294(6584):1377–1380; Sees KL et al, *JAMA* 2000;283(10):1303–1310; Magura S & Rosenblum A, *Mt Sinai J Med* 2001;68(1):62–74).

CATR: Then what happens?

Dr. Bart: An important study from England showed that the risk of death is nine times greater during the first two weeks after stopping either methadone or buprenorphine, due to loss of tolerance and relapse to opioids and overdose (Cornish R et al, *BMJ* 2010;341:c5475). Many other studies have also shown that relapse is extremely common (Magura S & Rosenblum A, *op.cit*).

CATR: Do we know why they relapse?

Dr. Bart: Opioid addicts have abnormal stress responses. In patients who get sober through behavioral treatment alone without methadone or buprenorphine, we see persisting abnormalities in some aspects of their stress response (Bart G, *J Addict Dis* 2012;31(3):207–225). These abnormalities correct, however, in patients who have been treated with medications. This correction

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Vivitrol: Another Option for Opioid Addiction?

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Naltrexone first hit the US market as an oral medication (ReVia) way back in 1984. Over the years, it developed a solid reputation for treating alcoholism and remains a first-line therapy today.

Naltrexone was a bust, however, when it came to treating opioid addiction. Oral naltrexone has been found to be no better than placebo at achieving abstinence from opioids or retaining patients in treatment (Minozzi S et al, *Cochrane Database Syst Rev* 2011;4:CD001333).

The drug was reformulated as a once-a-month injection after the original patent for the pill expired. This injectable form was FDA-approved in 2006 for treatment of alcoholism under the brand name Vivitrol, and received a second indication for opioid addiction in 2010.

How Does It Work?

Naltrexone is an opioid antagonist with high affinity for the opioid receptor but no intrinsic activity. (Affinity refers to how strongly a drug "sticks" to a receptor, while activity indicates whether the drug "flips the switch" or turns the receptor on. Naltrexone is very sticky but can't throw the switch.)

Naltrexone has much higher affinity for the opioid receptor than heroin and other opioids that are commonly abused. It thus serves as an opioid "blocker" that prevents opioids from accessing the opioid receptor should patients relapse.

How Is It Dosed?

Vivitrol is supplied in a kit that contains all of the materials needed for one 380 mg injection. Medication is administered as a deep intramuscular injection into the gluteal (buttock) muscle every four weeks.

Patients need to be opioid-free for at least seven days before receiving their first injection to avoid the risk of precipitated opioid withdrawal. Providers might want to first administer a few doses of oral naltrexone to assess tolerability.

Although healthcare providers can stock Vivitrol in their clinics, the cost to maintain inventory is pretty steep—about $1,300 per dose, wholesale cost. Plus there is the risk of medication expiring if kits go unused and/or spoiling if not stored properly. Because of this, some clinics have their patients obtain Vivitrol directly from community pharmacies and then bring it to clinic for administration.

Does It Work?

Virtually all of the data on Vivitrol come from a double-blind clinical trial that was conducted in Russia (Krupitsky E et al, *Lancet* 2011;377(9776):1506–1533; Krupitsky E et al, *Addiction* 2013;108(9):1628–1637). Researchers randomized 250 patients to receive either Vivitrol or placebo injections. After six months, the study was unblinded and patients in both groups were offered Vivitrol for another 12 months. Both groups also received counseling.

Fifty-three percent of patients assigned to Vivitrol completed the double-blind phase of the clinical trial, compared to 38% in the placebo arm. Patients receiving Vivitrol had a higher rate of abstinence, greater reduction in cravings, and bigger improvements in self-reported quality of life. Clinicians also judged 86% of the Vivitrol group as "much or very much improved," versus 58% of placebo patients.

Most of the Vivitrol patients who completed the double-blind portion of the clinical trial continued into the open-label phase of the study. Forty-five percent and 31% of the original cohort were still enrolled at 12 and 18 months, respectively.

How Does It Compare?

Vivitrol hasn't been compared on a head-to-head basis with methadone (Dolophine, Methadose) or buprenorphine (Subutex, Suboxone, Zubsolv), the current standard of care for treating opioid addiction. (However, a multicenter investigation is currently enrolling patients [http://1.usa.gov/1kdgbCC].) Accordingly, all comparisons involve guesswork.

There are many possible ways to measure success in clinical trials for addiction: self-reported drug use, toxicology, quality of life, and special scales like the Addiction Severity Index. Retention in treatment, however, is the simplest and probably the most powerful. Simply put, patients who remain in treatment generally realize gains in multiple domains, whereas those who stop receiving care usually fare poorly.

Methadone and buprenorphine have similar retention in treatment, although the actual numbers vary from study to study (Farré M et al, *Drug Alcohol Depend* 2002;65(3):283–290; Connock M et al, *Health Technol Assess* 2007;11(9):1–171). Data from real world settings (rather than clinical trials) are probably most instructive.

One study, from a methadone clinic in Israel, reported a one-year retention rate of 74% for all participants (Peles E et al, *Drug Alcohol Depend* 2006;82(3):211–217). At two years, retention rates were 50% for participants who had opioid positive urines and 80% among those who had negative tests. At five years, 40% of those with positive urines and 60% of patients with negative urines were still on program. And, at 10 years, retention in the program was 30% for those who tested positive for opioids and 40% for patients who were opioid negative. These findings are roughly consistent with other long-term cohorts (Strike CJ et al, *Addict Behav* 2005;30(5):1025–1028; Jimenez-Treviño L et al, *Addict Behav* 2011;36(12):1184–1190).

Based on these data, I estimate that methadone, and probably buprenorphine, have 20%–30% higher retention in treatment than Vivitrol at one year, and a 10%–20% advantage at two years.

Using Vivitrol in the Real World

My partners and I practice at a federally licensed opioid treatment program at a large urban hospital. As such, opioid addiction is a big chunk of our patient load.

Despite this, we have very few patients on Vivitrol. Virtually every

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Research Updates

EMERGING TRENDS

Addiction Following Bariatric Surgery

About 36% of Americans are obese, a number that, unfortunately, has been stable in recent years (http://1.usa.gov/1kEkDL8). With this comes a host of secondary health problems such as type 2 diabetes, heart disease, and stroke.

Bariatric surgery is the most effective means to permanently lose weight and reverse obesity-related medical comorbidities. More than 100,000 Americans undergo surgery each year, about a 10-fold increase compared to the 1990s (Nguyen NT et al, *J Am Coll Surg* 2011;213(2):261–266). Roux-en-Y gastric bypass surgery (RYGB) is the most common procedure performed.

As surgical volumes increased, reports started to emerge about addiction following surgery. Initially, it was unclear whether there was any connection. Subsequent studies, however, established a clear association (King WC et at, *JAMA* 2012;307(23):2516–2525). The big question now surrounds causation: namely, does bariatric surgery place patients at risk for developing addiction?

The most recent investigation was performed by researchers at Eastern Michigan University's Eating and Addictive Behaviors Laboratory and collaborators from two other institutions. One hundred forty-one patients who had undergone RYGB at least two years prior were enrolled. Participants were predominantly white (93%), female (79%), and married (65%). The average age of participants was 53 years old, with a mean time since surgery of about six years (range=2 to 14).

Patients were assessed for substance misuse using the Michigan Assessment–Screening Test/Alcohol–Drug (MAST/AD) version and the World Health Organization's Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). Pathological eating was also assessed using a battery of scales and measures.

Twenty patients (14%) screened positive for post-operative substance misuse, of which only six (30%) had issues prior to surgery. The investigators noted that this far exceeded the rate of addiction for demographically similar people in the general population. Those with substance misuse were more likely to be younger, have a positive family history of addiction, and a personal history of pathological eating. They also had less weight loss following surgery than those without substance misuse (Reslan S et al, *Subst Use Misuse* 2014;49(4):405–417).

CATR's Take: Substance abuse treatment programs are seeing more patients with a history of bariatric surgery. This has always been a bit puzzling as candidates for weight loss surgery are carefully screened for various mental disorders, including addiction. This study, while retrospective and relatively small, suggests that addiction may represent a late post-operative complication in vulnerable patients. Patients developing *de novo* substance misuse had a higher rate of pathological eating, which hints at behavioral substitution as a possible mechanism. A physiologic explanation also exists as RYGB alters gut anatomy and is known to lead to faster absorption of alcohol.

News of Note

FDA Approves New Naloxone Device to Prevent Overdose Deaths

As deaths from heroin and other opioids continue to skyrocket nationwide, the FDA recently fast-tracked approval of a lifesaving device to reverse opioid overdoses. Evzio, an auto-injector containing naloxone (Narcan), was approved on April 3 (http://1.usa.gov/1kJXu8e).

FDA approval came as debate is taking place in many states over whether naloxone should be made available o people who abuse drugs and their friends and families in order to prevent overdose deaths.

The FDA indicated that this is the first formulation of naloxone designed specifically for the lay public. The device, which someone can carry in their pocket or store in a medicine cabinet, rapidly delivers a single dose of naloxone. It is intended for the emergency treatment of someone with a known or suspected opioid overdose, which can result in loss of consciousness and potentially fatal respiratory depression.

Drug overdose deaths, tied largely to prescription medications, have increased steadily for more than a decade and are now the leading cause of injury-related death in the United States—surpassing motor vehicle crashes.

Prior to Evzio, naloxone could only be administered by first loading a syringe. For this reason, its use was mainly confined to hospital emergency departments and ambulance crews working in the field. Although "off label" naloxone nasal sprays exist, the logistics of prescribing them have challenged providers.

Once turned on, Evzio provides verbal instructions to the user describing how to administer the medication, similar to automated defibrillators. The device delivers naloxone as an intramuscular or subcutaneous injection. Evzio also comes with a training device so people can practice using it.

The FDA reviewed Evzio under the agency's priority review program, which provides expedited consideration. The device is expected to be available this summer.

In 2012, the Centers for Disease Control and Prevention (CDC) reported that naloxone had successfully reversed more than 10,000 opioid overdoses since 1996 (http://1.usa.gov/1l4udWt). The Substance Abuse and Mental Health Services Administration (SAMHSA) has a free opioid overdose prevention toolkit on its website (http://1.usa.gov/1gMtpJ5).

WHO Releases Guidelines on Perinatal Addiction

The World Health Organization has released evidence-based guidelines for healthcare professionals to help pregnant women who abuse alcohol or other drugs (http://bit.ly/1qdubA0).

The 224-page document focuses on six areas:

- Screening and brief interventions for substance use during pregnancy

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CE/CME Post-Test

To earn CE or CME credit, you must read the articles and log on to www.CarletAddictionTreatment.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, 2015. 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. During a recent office visit, you reviewed the risks, benefits, and alternatives of various treatment options with a patient. From an informed consent standpoint, which criterion did this fulfill (Learning Objective #1)?
   [ ] a) Capacity [ ] b) Disclosure [ ] c) Voluntariness [ ] d) Customary or reasonable

2. What do the World Health Organization, US Centers for Disease Control and Prevention, US Department of Health and Human Services, and many other agencies and organizations recommend as first-line treatments for opioid addiction (LO #1)?
   [ ] a) Drug-free or abstinence-based treatments
   [ ] b) Opioid agonist therapy with methadone or buprenorphine
   [ ] c) Psychosocial or intensive behavioral treatments
   [ ] d) Oral naltrexone (ReVia)

3. A study from England looked at what happened to patients with opioid addiction after methadone or buprenorphine were discontinued. What was the excess rate of death during the first two weeks after therapy was stopped (LO #2)?
   [ ] a) Three times greater [ ] b) Five times greater [ ] c) Nine times greater [ ] d) Twelve times greater

4. What is Vivitrol's route of administration (LO #3)?
   [ ] a) Oral [ ] b) Sublingual [ ] c) Intramuscular [ ] d) Transdermal

5. In a recent study that looked at the relationship between bariatric surgery and patients' risk for developing addiction, what percentage of patients screened positive for post-operative substance misuse (LO #4)?
   [ ] a) 8% [ ] b) 14% [ ] c) 26% [ ] d) 39%

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News of Note

Continued from page 6

- Psychosocial interventions for perinatal addiction
- Detoxification
- Addiction pharmacotherapy
- Breastfeeding
- Management of neonatal withdrawal syndromes

The WHO said they developed the guidelines in response to requests from organizations, institutions, and individuals who wanted guidance on how to identify and manage perinatal addiction and related problems.

"These guidelines have been developed to enable professionals to assist women who are pregnant, or have recently had a child, and who use alcohol or drugs or who have a substance use disorder, to achieve healthy outcomes for themselves and their fetus or infant," the report states.

Expert Interview

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may be the reason why methadone and buprenorphine help prevent return to drug use, and why people who don't receive medications or stop taking medications are so likely to relapse.

CATR: In the face of all the evidence, why do you think there is continuing antipathy to opioid agonist therapy?

Dr. Bart: I think there are multiple factors at play. The general public still views addiction as a character weakness rather than a disease process. So even though the overt discussions are no longer about willpower or being weak, there is still this overemphasis or reliance on the idea that behavioral change alone should be enough to overcome it. There is also concern among policymakers and even some physicians that opioid agonist therapy perpetuates addiction in a medically sanctioned way, which couldn't be farther from the truth for a couple of reasons.

CATR: What are those reasons?

Dr. Bart: Addiction is by definition a maladaptive pattern of substance use that is associated with clinically significant impairment. When people are taking methadone or buprenorphine as instructed, there isn't maladaptive behavior and they aren't clinically

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Vivitrol: Another Option for Opioid Addiction?

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patient who comes to us is actively abusing opioids and requires buprenorphine or methadone for withdrawal suppression. Following stabilization, they generally aren't interested in tapering off of these medications, which involves some minor discomfort, waiting at least a week, and then switching over to Vivitrol. Frankly, patients don't see the advantage—and, as their providers, neither do we.

CATR'S TAKE: Methadone and buprenorphine, which have long, favorable track records, remain the gold standard for treating opioid addiction. Vivitrol has lower retention in treatment but might be a live option in practice environments where buprenorphine and methadone aren't available or can only be used on a time-limited basis, or for higher-risk populations of patients with substance use disorders, such as healthcare practitioners.

Expert Interview

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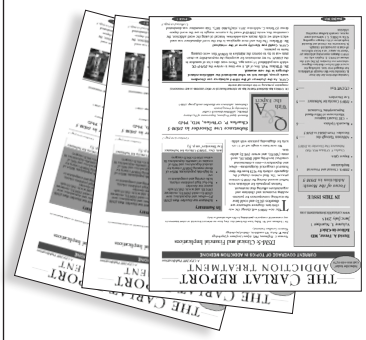
impaired. And, actually, it's just the opposite. Methadone and buprenorphine are *adaptive* in that they improve quality of life and social functioning (Feelemyer JP et al, *Drug Alcohol Depend* 2014;134:251–258). Some of the confusion probably stems from equating physical dependence with addiction.

CATR: Thank you, Dr. Bart.

Next month in *The Carlat Addiction Treatment Report*: Self-Help Programs

This Month's Focus: **Opioid Addiction**



The Carlat Addiction Treatment Report

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