Cabrillo College

HSERV 162- Physiology and Pharmacology
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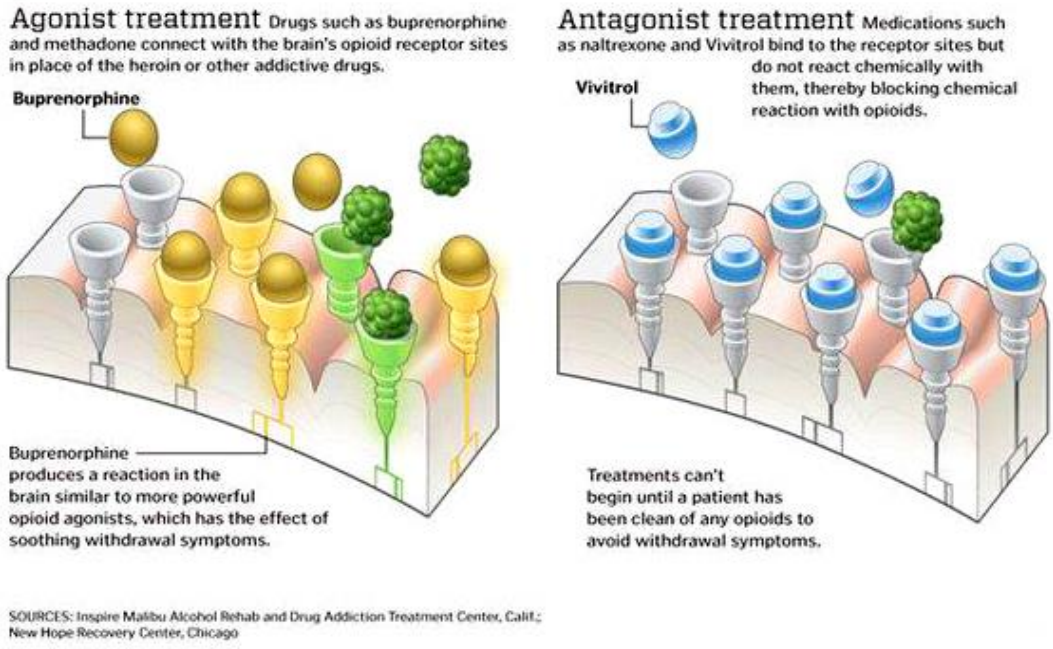
Vivitrol, Suboxone and methadone: What we know about medicines used to treat opioid use disorders



Three types of medications are approved by the U.S. Food and Drug Administration to help treat opioid use disorders: methadone, buprenorphine and naltrexone.

The medications are often referred to by popular brand names, such as Suboxone or Vivitrol. They also come in different forms: pills, dissolvable films and liquids. Medication, used along with treatment, can raise one-year sobriety rates to 45 to 60 percent, much higher than a 20 to 30 percent rate with treatment alone, said Dr. Theodore Parran, an addiction specialist who teaches at Case Western Reserve University and is on staff at St. Vincent Medical Center.

Relapse rates are similar for the medications in the long run, although they haven't been compared in a head-to-head study. All of them work best when paired with treatment and support, Parran said.

Here's what we know about the medications:

Vivitrol

Vivitrol isn't a new medication. It's an injectable version of the generic drug, naltrexone, which has been used since the mid-1980s to treat opioid use disorders (OUD).

Vivitrol is given as an injection that releases naltrexone into the body over about 30 days. The medication blocks the ability of the receptors in the brain to react to opioids.

Vivitrol is an antagonist that blocks receptors in the brain so they can't be activated by opioids. That prevents a person from feeling euphoria, or the "high" produced by taking opioid-based pain pills or heroin.

First available as a pill, oral naltrexone, wasn't a huge success because it didn't completely reduce cravings for opioids and it was hard to get addicts to adhere to taking it daily. In 2006, an injectable version of naltrexone - first called *Vivitrex* but later branded Vivitrol -- was approved to treat alcohol use disorders.

In 2010, the FDA approved the Vivitrol shot to help prevent relapse in patients with OUD, though it noted several warnings regarding its use. (See more about the warnings below.)

Suboxone or buprenorphine

Buprenorphine is a semi-synthetic opioid that partially activates receptors in the brain that crave opioids.

Doses are set to give patients enough medication not to feel the symptoms of withdraw but also not enough to feel high.

The medications, called *agonists*, have been studied for decades and found to be effective when used in conjunction with treatment.

Suboxone, a brand of the medication, also includes naloxone to prevent tampering and abuse. It is among the most-prescribed versions of this medication.

First approved by the FDA for use to treat OUD in 2002, buprenorphine-based medications are most often taken as pills or films that dissolve under the tongue or inside the cheek.

Last year, the FDA cautiously approved a longer-acting version of buprenorphine that can be placed under the skin to release a steady dose of the medication for up to six months for patients who have done well and have been put on smaller doses of the medication.

Methadone

Methadone is the oldest and most proven OUD treatment medication. It is also the mostly highly regulated. The opioid-based medication, also an agonist, helps a person maintain a safe level of opioids in the body to prevent withdraw and cravings.

Methadone is shown to work best when used for long periods of time, often years. Patients are generally tapered off the medication slowly over time, when possible. The medication is available only at highly-regulated clinics, mostly closer to urban areas.

Vivitrol: Costs

Vivitrol is the most expensive medication per dose, though it is often prescribed for shorter period of time than buprenorphine or methadone. It can cost anywhere from $1,000 to $1,400 per shot, not including a facility fee for administering the injection.

Medicaid pays a slightly lower negotiated price, though the exact amount is confidential. Last year, some State Medicaid plans paid more than $38 million dollars for Vivitrol prescriptions to treat OUD.

The pill version of naltrexone is far less costly, at roughly $70 a month. It has to be taken daily and is most use for those with addictions very motivated to be sober.

Suboxone and buprenorphine: Costs

Costs for Suboxone or generic buprenorphine prescriptions vary significantly based on the dose prescribed, from $100 a month to $800 a month, far less for generics. Some State's Medicaid plans paid more than $60 million for Suboxone prescriptions in 2016 and close to $11 million for generic or other branded formulations that include buprenorphine.

In Ohio, some prescribers and clinics have been criticized for charging Suboxone patients cash for the weekly or monthly appointments required to get the prescriptions. Prescribers complain of high administrative costs to manage patients on Suboxone because of monthly pre-authorizations required by Medicaid and other insurance coverage.

In order to prescribe buprenorphine or Suboxone, doctors must undergo six to eight hours of training. Under federal rules, the most patients a doctor could prescribe the medications for at once is 275. Previously, the limits were lower, either 30 or 100 patients.

Methadone: Costs

Methadone's cost is low, generally a few dollars per dose. However, the costs of daily visits to receive the medicine, additional case management and counseling bumps the cost to between $10 and $20 per day.

Some Medicaid plans paid $21 million in 2016 for treatment with methadone to the state's certified programs. Often, individuals not covered by insurance pay cash for daily visits.

Vivitrol: Pros and Cons

Vivitrol is favored, especially in criminal justice circles, because it is not an opioid and can't be abused. It can also be prescribed by any doctor and administered by nurses and other medical professionals, without specialized training.

Patients must be fully detoxed from opioids to avoid severe withdraws when receiving the shot.

One concern with Vivitrol is that patients on the drug could be at increased risk for overdoses when they stop using the medication. "It's not like coming out of detox where your tolerance level is back to baseline, your tolerance level is way below baseline," Dr. Jason Jerry, formerly of the Cleveland Clinic, said. "Then you are more sensitive to opiates than you were before."

Smaller studies on closely-watched patients involved with the criminal justice system have not shown increased deaths, though nobody has closely studied overdose deaths after the medication is discontinued.

Though it didn't look at Vivitrol, an injection, a large study in Australia more than a decade ago found patients on oral naltrexone were 44 percent more likely to die from an overdose after discontinuing use of the drug.

The medication carries a warning about the increased overdose risk along with health risks for patients with severe liver issues.

Suboxone: Pros and Cons

Proponents of buprenorphine-based medications, like Suboxone, said they are proven to work in hundreds of studies.

The World Health Organization, the Centers for Disease Control and Prevention, and the Department of Veterans Affairs all recommend buprenorphine as a first line of treatment for opioid addiction.

The medications, however, are not favored in criminal justice circles because defendants have used them to avoid positive drug tests and they got a reputation for being diverted, sold on the streets or smuggled into prisons.

Patients must be monitored while using the medication to ensure the appropriate dose is being given.

Some also complain that not enough doctors are trained and willing to prescribe the buprenorphine, and that some who do charge cash for visits deal with burdensome pre-authorization requirements from insurance.

Methadone: Pros and cons

Since it is a powerful opioid, methadone is tightly controlled because of the potential for abuse and diversion. It also is the most well-researched of the opioid addiction treatments and is proven safe when used properly.

Currently, those with addictions in rural parts of the state have to drive an hour or more to get a daily dose of the medication.

Dr. Mark Hurst, medical director of the Department of Mental Health and Addiction Services, said the state has worked to expand the ability of methadone-based treatment providers to open clinics in Ohio. In December, lawmakers passed a bill that eliminated a rule requiring methadone providers be certified in Ohio for two years before they could prescribe the medication. The law also lifted a ban on for-profit methadone clinics.