



OPIOD ADDICTION TREATMENT

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ABSTRACT

The article focuses on opioid addiction treatment, patient counseling, the medication used in opioid addiction treatment, and understanding the dosing strategies in buprenorphine/naltrexone dosing.

Keywords: Opioid Use Disorder, Medication-Assisted Therapy, Public Health Crisis, Buprenorphine/Naltrexone, Suboxone.

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INTRODUCTION

Opioids are natural, semi-synthetic, or synthetic chemicals that interact with opioid receptors in the body and brain and reduce the perception of pain (1). Natural opioids derive from poppy plants, such as heroin or morphine. In a lab, synthetic and semi-synthetic opioids—fentanyl and heroin, respectively—are created to resemble the effects of naturally occurring opiates like morphine. Compared to natural opiates, Designers create them to be more powerful and robust.

Long-term opioid use can lead to tolerance, dependence, and addiction, characteristics of opioid use disorder (OUD). OUD is a worldwide problem with varying prevalence rates across various countries; it is not solely a problem in the United States. OUD has detrimental effects on one's health. In terms of the body, it might cause hormonal abnormalities, infections, constipation, and respiratory depression. Psychologically, OUD patients are frequently dealing with anxiety, depression, and cognitive impairment. Socially, it can cause conflict in relationships, cause problems at work, and encourage criminal activity. The fatality rate linked to OUD is the most concerning feature.

Addiction is a curable, chronic medical disorder in which a person obsessively seeks and consumes substances such as drugs or alcohol or engages in other behaviors (such as gambling) despite the adverse impacts on their health and/or life (2). There are certain characteristic features mainly seen with addiction (3); these include:

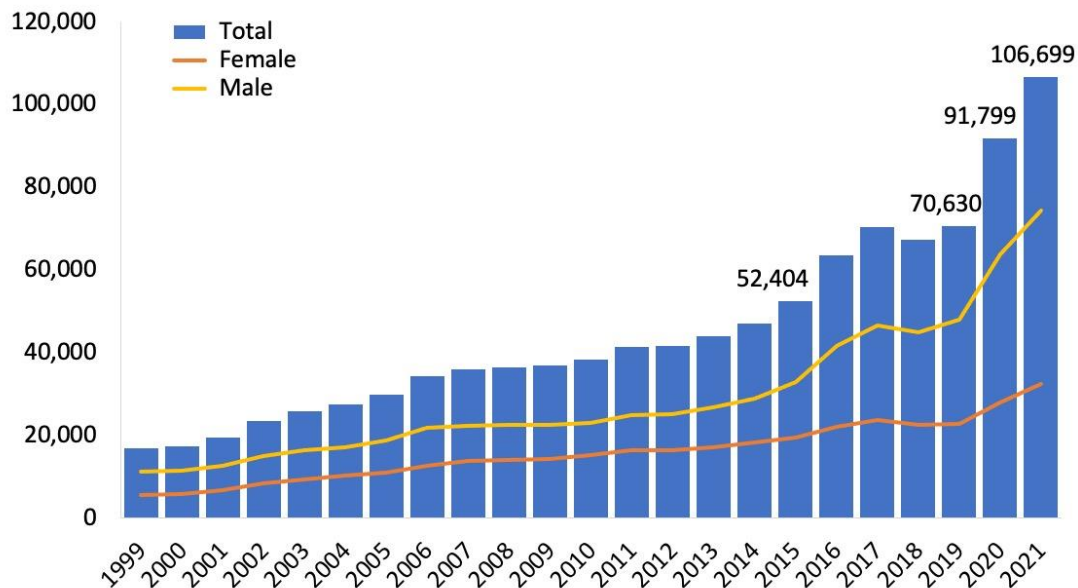
- Inability to consistently abstain.
- Impairment in behavior control.
- Craving for drugs or rewarding experience.
- Diminished recognition of the significant problem with one's behavior.
- A dysfunctional emotional response.

These five characteristics are not intended to be used as "diagnostic criteria" for assessing whether addiction exists. A thorough medical, psychological, social, and spiritual evaluation conducted by a qualified and licensed specialist is necessary for the diagnosis of addiction. This article aims to provide insight into the impact and treatment strategies related to opioid use disorder and give an in-depth analysis of medication-assisted treatment with buprenorphine/ naltrexone (suboxone).

EPIDEMIOLOGY OF U.S OPIOID CRISIS

In a study done by Hawre Jalal et al., the U.S. opioid crisis started at least two decades ago (4). Although involving compounds that are closely similar in their pharmacologic properties, the opioid crisis in the United States is two sets of intertwined issues: misuse of and addiction to prescription opioid analgesics, which predominated in the first decade of the crisis, and, more recently, use of and addiction to illicit opioids (5). In 2021, approximately 106,000 Americans lost their lives to drug-related overdoses, which included both illegal and prescription opioids (6).

Figure 1. National Drug-Involved Overdose Deaths*, Number Among All Ages, by Gender, 1999-2021



*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999–2021 on CDC WONDER Online Database, released 1/2023.

Over 10 million Americans who were 12 years of age or older are expected to have abused opioids in the previous year in 2021 (7).

ASSESSMENT (8)

The physician will ask questions to understand all the factors contributing to patient addiction. The more information available to the physician, the better treatment may be organized with the patient. To help physicians identify, treat, and prescribe opioid agonist treatment (OAT) to patients with opioid use disorders, a range of assessment instruments have been developed.

NAME	TOTAL QUESTIONS	SCORE	RESULTS
Current opioid misuse measure (comm)	17	0-68	< 9 is negative > or = 9 is positive
Opioid risk tool (ORT)	5	0-8	0-3= low risk 4-7=moderate risk >8 = high risk abuse
Patient medication questionnaire (PMQ)	26	0-104	<25 = low risk 25-30 = moderate use >30 = high risk
Screeners and Opioid Assessment for Patients with Pain-Revised (SOAPP®-R)	24	0-96	<9 = low risk 10-21 = moderate risk 22 or greater = high risk

TREATMENT OVERVIEW

During the assessment, the physician will also determine the patient's psychological and social support level. After the evaluation, the patient and the clinician will review all recommended treatment options. Since each patient's circumstances are unique, the doctor and patient collaborate to choose the best action. The physician will most likely recommend counseling or a recovery support group.

Various therapy options are available based on the patient's illness severity and other variables. ASAM outlines four significant levels:

- ASAM level 1- outpatient treatment
- ASAM level 2: intensive outpatient or partial hospitalization
- ASAM level 3: Residential treatment
- ASAM level 4: Hospital in-patient treatment (Placeholder7)

TREATMENT PLAN

In this review article, we will focus on outpatient treatment, which includes medication-assisted treatment. Methadone, buprenorphine, and naltrexone are the three main medications used to treat opioid addiction. Physicians recommend this medication in combination with counseling and other support.

- 1) **Methadone:** Methadone, a long-acting mu-opioid agonist, decreases opioid craving and withdrawal while also blunting or blocking opioid effects. (10) Outpatient methadone treatment in the United States is only legal for those engaged in state- and federally-certified opioid treatment programs (OTPs), sometimes known as methadone clinics. (11)

The ideal method to dosage is to begin slowly and gradually increase the dose. Methadone has a long half-life (24-36 hours or more). It takes roughly five half-lives to achieve steady-state serum levels. This means that even if the daily dose is identical, patients will not feel the full benefit of the initial dose for four or more days. (Medications for Opioid Use Disorder: For Healthcare and Addiction Professionals, Policymakers, Patients, and Families, 2021)

Methadone, like heroin or opium, is an opioid agonist medication with carefully regulated dosages that are both legally and medically acceptable. While methadone is a less harmful drug, it is nonetheless a narcotic with a high risk of addiction and deadly adverse effects. When a person uses methadone in any form, they risk suffering an array of severe side effects that can cause both bodily and psychological harm. (13) Common side effects include restlessness, nausea & vomiting, slow breathing, itchy skin, heavy sweating, constipation, and sexual problems, whereas the serious side effects include difficulty breathing or shallow breathing, hives or a rash, lips, swelling of face, tongue or throat, chest pain or pounding heartbeat, hallucination, or confusion. (14)

- 2) **Naltrexone:** The Food and Drug Administration (FDA) has approved naltrexone to treat both alcohol use disorder (AUD) and opioid use disorder (OUD). (15) Naltrexone binds to and inhibits opioid receptors, and it has been shown to alleviate opioid cravings. Naltrexone has no misuse or diversion potential. If a person relapses and consumes the opioid, naltrexone prevents them from feeling high.

The only approved naltrexone for the treatment of people with opioid use disorder is the extended-release injection known as Vivitrol. A potential drawback is naltrexone injection can only be taken by patients after opioid withdrawal is complete. (16)

A severe side effect of naltrexone is liver damage, and the physician will have to conduct a physical exam and determine a liver function test before initiating treatment with naltrexone.

- 3) **Buprenorphine and its combination:** (17) Introduced in the late 1960s, buprenorphine is a synthetic opioid used to treat both pain and opioid use disorder (17). It is a partial agonist at the mu receptor (18). Buprenorphine effectively reduces pain perception by blocking the transmission of pain signals from the nervous system to the brain and body (19).

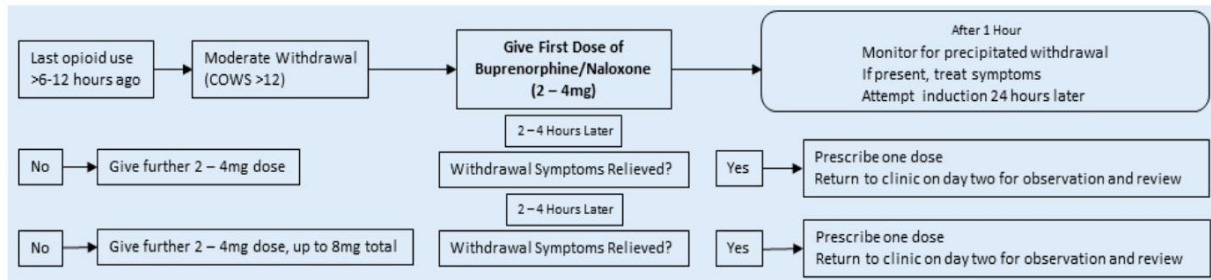
There are various formulations available of buprenorphine and its combination:

- 3.1. **Sublocade:** In 2017, the Food and Drug Administration (FDA) authorized the use of Sublocade®, a subcutaneous extended-release injection of buprenorphine, to treat opioid use dependency in patients who had previously begun treatment with buprenorphine for at least seven days.
- 3.2. **Probuphine:** Probuphine®, developed by Total Pharmaceuticals and authorized by the FDA in May 2016, is a subdermal implant that delivers 1-1.3 mg daily from four to five implants. One implant provides a dose equivalent to about 80 mg.
- 3.3. **Subutex:** Subutex®, a 2 mg or 8 mg sublingual tablet approved by the FDA in 2002 that Reckitt Benckiser Pharmaceuticals Inc. created, is a medicine for the induction of treatment of opioid dependence.
- 3.4. **Suboxone/ zubsolv:** These medicines have both an opioid agonist (buprenorphine) and an opioid blocker (naloxone) in them. The 4:1 ratio of buprenorphine to naloxone makes it less likely that the drugs will be abused or used for injections.

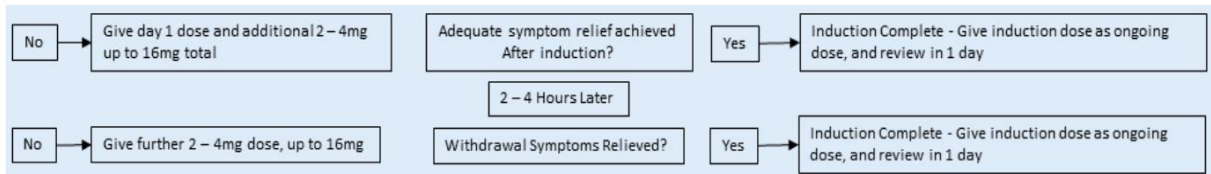
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The strengths are 2mg/0.5 mg, 4 mg/1 mg, 8 mg/2mg & 12 mg/3 mg.

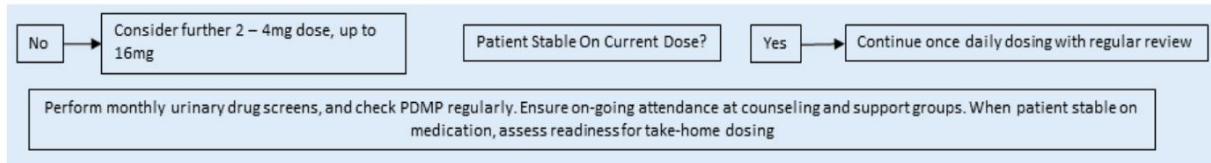
DAY ONE (INDUCTION)



DAY TWO



MAINTENANCE



CONCLUSION

Addiction should be viewed as a medical problem, not a moral failing, and society should be encouraged to empathize and understand by treating opioid use disorder as a multidimensional illness that necessitates a multipronged strategy for effective management. Medication-assisted therapy, counseling, and support services should all be part of the treatment plan.

Preventionary actions, including disseminating knowledge regarding the hazards of opioid misuse and educating the public about responsible prescription practices, are crucial in mitigating the spread of the epidemic. Moreover, by tackling the social determinants of addiction, including but not limited to poverty and inadequate healthcare accessibility, sustainable resolutions can be achieved.

At the end of the day, fighting opioid use disorder and helping people get better requires a comprehensive and caring approach, along with ongoing study and community involvement.

REFERENCE

- [1] *American psychiatric association* . [Online] [Cited: 01 01, 2024.] <https://www.psychiatry.org/patients-families/opioid-use-disorder>.
- [2] *american society od addiction medicine* . [Online] <https://www.asam.org/quality-care/definition-of-addiction>.
- [3] *american society of addiction medicine* . [Online] https://sitefinitystorage.blob.core.windows.net/sitefinity-production-blobs/b0209701-2099-441a-92c3-eb60c4a387cb?sfvrsn=a8f64512_0.
- [4] *Changing dynamics of the drug overdose epidemic in the United States from 1979 through 2016*. Hawre Jalal, Jeanine M. Buchanich, Mark S. Roberts, Lauren C. Balmert, Kun Zhang,. 6408, washington, d.c : science, 09 21, 2018, Vol. 361.
- [5] *Epidemiology of the U.S. opioid crisis: the importance of the vector*. Compton, Wilson M., and Christopher M. Jones. 1, newyork : New York Academy of Sciences, 2019, Annals of the New York Academy of Sciences, Vol. 1451, p. 130.
- [6] *National Institute on Drug Abuse*. [Online] <https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates>.
- [7] *American psychiatric association*. [Online] <https://www.psychiatry.org/news-room/apablogs/opioid-crisis-impact-challenges-recovery>.
- [8] *"Opioid Use Disorder Assessment Tools and Drug Screening."*. Ducharme, James, and Sean Moore. 4, s.l. : pubmed central, 07 2016, missouri medicine, Vol. 116, pp. 318-324.
- [9] [Online] <https://eguideline.guidelinecentral.com/i/1275542-asam-opioid-patient-guide-2020/3?>.
- [10] *samhsa*. [Online] <https://www.samhsa.gov/medications-substance-use-disorders/medications-counseling-related-conditions/methadone>.
- [11] *The Effectiveness of Medication-Based Treatment for Opioid Use Disorder*. washington d.c : national academies press , 2019. 2.
- [12] *Medications for Opioid Use Disorder: For Healthcare and Addiction Professionals, Policymakers, Patients, and Families*. rockville : National center fo biotechnology information , 2021.
- [13] *american addiction center*. [Online] <https://americanaddictioncenters.org/methadone-addiction/side-effects>.
- [14] *Comprehensive Approaches in Battling Opioid useDisorder: Analysis and Treatment Strategies*. shah, bahvin. s.l. : international journal of science and research.

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- [15] SAMHSA. [Online] <https://www.samhsa.gov/medications-substance-use-disorders/medications-counseling-related-conditions/naltrexone>.
- [16] UAMS. *Psychiatric research institute* . [Online] <https://psychiatry.uams.edu/clinical-care/cast/what-is-naltrexone/>.
- [17] "Buprenorphine and Its Formulations: A Comprehensive Review.". Poliwoda, Salomon, et al. 3, 2022, *Health Psychology Research*, Vol. 10.
- [18] Kumar R, Viswanath O, Saadabadi A. *national center for biotechnology information* . [Online] statpearls publishing . <https://www.ncbi.nlm.nih.gov/books/NBK459126/>.
- [19] *Buprenorphine: A Unique Drug with Complex Pharmacology*. Lutfy, K., & Cowan, A. 4, 2004, *Current Neuropharmacology*, Vol. 2, p. 395.
- [20] *healthdirect* . [Online] <https://www.healthdirect.gov.au/buprenorphine>.
- [21] *American psychiatric association*. [Online] <https://www.psychiatry.org/news-room/apablogs/opioid-crisis-impact-challenges-recovery>.
- [22] SAMHSA. [Online] <https://www.samhsa.gov/medications-substance-use-disorders/medications-counseling-related-conditions/naloxone>.

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