NP role in medication-assisted treatment for opioid use disorder

Combine medication and counseling with shared decision-making to treat addiction.

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OPIOID USE DISORDER (OUD) is a serious public health concern in the United States. (See *Startling numbers*.) Treatment is challenging, but nurse practitioners (NPs) are ideally positioned and have the clinical skills to serve as frontline providers to identify, treat, and manage OUD.

Medication-assisted treatment (MAT), an evidence-based intervention for OUD, combines medication with counseling and behavioral therapies.

Barriers to MAT

The stigma around drug misuse can prevent patients from seeking MAT. Many patients report being made to feel weak, ashamed, and undeserving of care. For example, many members of the general public view methadone treatment for OUD as switching one addiction for another. Patients with mental illnesses and HIV/AIDS and those who are minorities may feel this stigma most harshly. NPs can help reduce stigmatization by being nonjudgmental and supportive at every patient encounter.

Other barriers to MAT include financial constraints, federal laws and regulations that deprive healthcare professionals of resources need to treat patients successfully, and provider lack of confidence when assessing patients for OUD.

MAT overview

The American Society of Addiction Medicine (ASAM) guidelines recommend an initial comprehensive assessment, including psychiatric assessment, physical examination, laboratory evaluation, and complete health history, to identify OUD and help determine viable MAT options for patients with OUD.

Assess whether the patient is addicted to opioids or has developed an opioid dependency (instead of an OUD) that has resulted in the need for higher levels of drug to achieve the desired effect. In either case, implement a shared decision-making process to determine immediate priorities, goals, and interventions. Ongoing monitoring will help you determine if the implemented interventions are successful.

CNE
1.8 contact hours

LEARNING OBJECTIVES

1. Discuss the role of medication-assisted treatment (MAT) for opioid use disorder.
2. Compare medications used for MAT and opioid withdrawal, including dosage and adverse effects.
3. Describe how a nurse practitioner can obtain prescribing privileges for buprenorphine.

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Comprehensive assessment and diagnosis

Complete a multidimensional exam to identify existing medical, physical, emotional, and spiritual health problems and to help develop appropriate plans and interventions. ASAM recommends identifying and making referrals for any emergent or urgent medical and psychiatric health problems related to drug overdose and impairment. In addition, assess for past and current substance abuse, including alcohol, sedatives, hypnotics, and anxiolytics. For instance, you may need to screen for tobacco abuse and offer counseling and be-

havioral health treatments. ASAM recommends providing referrals to help quit smoking if tobacco abuse is identified. Also, use a validated tool to screen all pregnant women for OUD at the first prenatal visit.

The Drug Abuse Screening Test (DAST) is a validated tool for screening patients for drug misuse. DAST, which is a self-reporting questionnaire (with either 10 [DAST-10] or 20 [DAST-20] questions), takes about 10 minutes to administer. It has high internal consistency, and its reliability is reported to be .92. The validity of both tests reported a correlation coefficient r = .98.

Laboratory screening tests when planning treatment for patients with OUD include a purified protein derivative to screen for tuberculosis and a complete blood count to assess overall health. Other tests include those for sexually transmitted infections (such as HIV), hepatitis C, hepatitis B, and syphilis. ASAM also recommends urine drug testing for opiates to monitor for misuse and overdose and hepatitis A and B vaccinations when appropriate.

Shared decision-making process

Successful implementation of MAT requires a patient-centered care approach that includes shared decision-making to help providers and patients work together to make care choices based on patients' preferences and values. This model includes three steps: introduce choice, describe options and help patients explore preferences, and allow patients to participate in care decisions. When formulating a treatment plan, talk with the patient about the addiction substance, the preferred type of therapy, his or her physical and mental state, and the setting where medication will be administered.

Location options for treatment are outpatient sites, partial hospitalization programs, community mental health centers, residential treatment sites, and hospitals. Medication will be coupled with behavioral therapies to form a comprehensive treatment plan.

Before initiating MAT, assess for withdrawal symptoms and manage them appropriately. (See *Managing withdrawal symptoms*.)

Startling numbers

According to the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (DSM-5), opioid use disorder (OUD) is diagnosed when at least two items from a list of criteria occur within a 12-month period. OUD has a significant impact on individuals' physical, mental, social, and spiritual health, and it poses challenges for healthcare delivery. Unfortunately, many healthcare providers are ill-equipped to identify and effectively treat patients with OUD.

115—number of people in the United States who die daily from opioid overdose (both prescription and illegal drugs)

Around 66%—percentage of the more than 63,600 drug overdose deaths in 2016 that involves an opioid

According to the Substance Abuse and Mental Health Services Administration:

- In 2017, approximately 11.4 million people aged 12 or older had misused opioids in the past year. This number represents 4.2% of the population aged 12 or older.
- From 1999 to 2013, the rate of death from opioid pain reliever overdose nearly quadrupled.

Sources: Centers for Disease Control and Prevention 2017; Substance Abuse and Mental Health Services Administration 2015, 2018

MAT medications

Medications used in MAT are aimed at reducing withdrawal symptoms (methadone, buprenorphine, and suboxone), preventing relapse (naltrexone), and treating opioid overdose (naloxone).

The ASAM guidelines also contain clonidine, although it isn't approved by the Food and Drug Administration (FDA) for treating opioid withdrawal. ASAM includes clonidine because it's been used successfully off-label for this purpose.

Although many studies have examined the efficacy of various drugs used to treat OUD, no evidence supports one as being most effective. Each drug, when used correctly and in conjunction with psychosocial therapies, has had some measure of success.

Methadone

Methadone, an opioid receptor agonist, is prescribed as part of detoxification of opioid addiction and long-term maintenance therapy. It decreases heroin and opioid withdrawal symptoms, euphoric drug effects, and cravings. Closely monitor patients for methadone tolerance or dependence.

The U.S. Drug Enforcement Agency (DEA) allows NPs to prescribe methadone as a schedule II narcotic controlled substance, but not all states permit it. Check your state's practice laws to find out what's allowed, and visit the DEA drug diversion website (deadiversion.usdoj.gov/drugreg/practioners/index.html) for information about all schedule II narcotics.

Dosing. Administer methadone once daily to counter withdrawal symptoms. In federally operated and regulated methadone programs, an initial dose of 10 mg to 30 mg usually is prescribed. The dose is increased in 5-mg to 10-mg increments (no more frequently than every 7 days) until withdrawal symptoms are controlled. ASAM guidelines recommend reassessing patients 3 to 4 hours after the initial dose. If withdrawal symptoms persist, administer a second dose.

The typical daily maintenance dose of methadone ranges from 60 mg to 120 mg, titrated until symptoms are diminished. Maintenance can continue for years.

Adverse effects and contraindications. Assess patients taking methadone for torsades de pointes, a form of polymorphic ventricular tachycardia associated with QT-interval prolongation. Most cases are seen with multiple daily doses (> 200 mg per day); however, common maintenance doses (60 mg to 120 mg per day) have been reported to cause this severe arrhythmia. Avoid using methadone if the patient has anaphylaxis, GI obstruction, acute bronchial asthma, or paralytic ileus disorders.

Rare adrenal insufficiency has been reported when methadone is used for more than 1 month. If you suspect this condition, discontinue the medication and confirm the diagnosis. Treatment for adrenal insufficiency includes corticosteroids.

Monitor patients for syncope and orthostatic hypotension, and take their blood pressure before and after initiating the drug and during titration. Although methadone is a category C drug that can be used during pregnancy, some concerns about its safety exist. It can cause respiratory depression in newborn infants.

Special considerations. Achieving a therapeutic methadone dose to effectively control withdrawal symptoms and facilitate smooth weaning requires dose adjustments. Let patients know that until the therapeutic dose is determined, they may experience withdrawal symptoms. And keep in mind that methadone has a long half-life and carries the risk of overdose; use caution when increasing the dose.

When withdrawal symptoms are controlled, administer the therapeutic dose for 2 to 3 days, then slowly reduce it. Closely monitor patients for withdrawal symptoms during the weaning phase and assess for drowsiness and impaired motor function. Despite these concerns, ASAM recommends methadone as the treatment of choice for heroin addiction.

Managing withdrawal symptoms

Early symptoms of opioid withdrawal include:

- yawning
- muscle aches
- anxiety
- lacrimation
- rhinorrhea.

As withdrawal progresses, symptoms may include:

- piloerection
- nausea
- vomiting
- diarrhea
- abdominal cramps
- dilated pupils.

The American Society of Addiction Medicine (ASAM) recommends using validated screening tools—Objective Opioid Withdrawal Scale, Subjective Opioid Withdrawal Scale, or Clinical Opioid Withdrawal Scale—to identify and measure patients' withdrawal symptoms. Prompt and efficient treatment is recommended because some symptoms (nausea, vomiting, and diarrhea) may lead to electrolyte imbalance and cardiac arrhythmias. Also, withdrawal symptoms may cause patients to leave treatment.

Symptom management

Adjunctive medications used in opioid use disorder (OUD) detoxification can help alleviate withdrawal symptoms.

- **Diarrhea**—loperamide. Adverse effects, including dry mouth, flatulence, abdominal cramps, and colic, usually are minor.
- **Nausea and vomiting**—ondansetron (which is expensive) or prochlorperazine (which has potential but rare adverse effects including severe allergic reactions, QT prolongation, serotonin syndrome, and torsades de pointes).
- **Pain relief**—nonsteroidal anti-inflammatory drugs, such as naproxen. Potential severe side effects include GI bleeding, nephrotoxicity, or hepatotoxicity.
- **Bowel cramps**—antispasmodics, such as dicyclomine. Antispasmodics are contraindicated with paralytic ileus, breastfeeding, and arrhythmias.
- **Anxiety, panic attacks, and insomnia**—benzodiazepines. Caution is advised because of physical and psychological dependence among patients with a history of substance abuse. The National Institute on Drug Abuse reported that more than 30% of opioid overdoses involve benzodiazepine misuse.

After withdrawal symptoms stop, taper and discontinue medications based on their half-life, dose, and length of prescription. Note that abrupt discontinuation of benzodiazepines can cause withdrawal symptoms.

Buprenorphine

Buprenorphine is a schedule III narcotic agonist/antagonist used for detoxification and maintenance treatment. It decreases craving and withdrawal symptoms but not the feeling of euphoria experienced with it and other opioids. After administering the medication, observe the patient during the office visit for allergic reactions, respiratory distress, and hypotension.

Dosing. ASAM guidelines recommend administering the initial dose of buprenorphine (in sublingual tablet or film) at least 4 hours after the patient last used opiates or when withdrawal symptoms first appear. During the induction phase, prescribe 2 mg to 4 mg on the first day and then increase the dose in increments of 2 mg to 4 mg until a therapeutic dose is achieved. Recommended daily maintenance doses are 12 mg to 16 mg or higher, but limit doses to no more than 24 mg daily.

Titrate buprenorphine to the therapeutic amount in the shortest possible time to reduce the risk of withdrawal. Tapering from the therapeutic dose can be as brief as 3 to 5 days or as long as 30 days or more. Insufficient evidence exists to

support the effectiveness of rapid versus gradual tapering in controlling withdrawal symptoms.

Adverse effects and contraindications. Monitor patients for headache, nausea, dizziness, somnolence, and constipation. Use caution with buprenorphine if a patient has compromised respiratory function, severe hypotension, or impaired liver function tests. Although buprenorphine appears to be safe during pregnancy, it may cause withdrawal symptoms in newborns. Patients dependent on opioids should wait until they are experiencing mild to moderate withdrawal before taking the first dose of buprenorphine to reduce the risk of precipitated withdrawal.

Concomitant use of buprenorphine with benzodiazepine (which may be prescribed to treat anxiety related to withdrawal) can result in coma or death. Keep naloxone available to reverse drug-induced respiratory depression.

Special considerations. The 2016 amendment to the Comprehensive Addiction and Recovery Act (CARA) made several changes regarding office-based opioid addiction treatment with buprenorphine. (See *NPs and buprenorphine.*)

NPs and buprenorphine

Nurse practitioner (NP) buprenorphine prescribing privileges have been extended until October 1, 2021. To obtain a Drug Addiction Treatment Act (DATA) 2000 waiver to prescribe this medication for up to 30 patients:

- Participate in 24 hours of training with one of these approved organizations: American Society of Addiction Medicine, American Academy of Addiction Psychiatry, American Medical Association, American Osteopathic Association, American Nurses Credentialing Center, American Psychiatric Association, American Association of Nurse Practitioners, American Academy of Physician Assistants.
- Take both the 8- and 16-hour courses (DATA-waiver on opioid use disorder [OUD] treatment and a SAMHSA free course). Learn more about the training courses at pcssnow.org/medication-assisted-treatment.
- Complete the waiver notification form, which can be retrieved at buprenorphine.samhsa.gov/forms/select-practitioner-type.php.
- Send copies of your training certificates to infobuprenorphine@samhsa.hhs.gov or fax them to 301-576-5237.

SAMHSA will forward your waiver application to the Drug Enforcement Administration (DEA), which will assign you a special identification number for prescribing buprenorphine. Include this identification on buprenorphine prescriptions for opioid dependence along with your regular DEA registration number.

For more information, visit https://www.samhsa.gov/programs-campaigns/medication-assisted-treatment/training-materials-resources/qualify-np-pa-waivers.

Suboxone

Suboxone, a combination of buprenorphine and naloxone, is used for opioid-dependence maintenance treatment.

Dosing. Suboxone is available as a sublingual film or tablet. It should not be cut, swallowed, or chewed. Place it under the tongue until it dissolves. The recommended initial dose is up to 8 mg buprenorphine/2 mg naloxone. Start with 2 mg/0.5 mg or 4 mg/1 mg and titrate up in 2- or 4-mg increments of buprenorphine (at approximately 2 hour intervals and under supervision) to 8 mg/2 mg based on control of acute withdrawal symptoms. On day two of treatment, administer 16 mg/4 mg, if needed; this also is a recommended daily dose for the maintenance therapy. After the patient is stable, the suggested dose range is 4 mg/1 mg to 24 mg/6 mg per day depending on the patient's clinical presentation.

Adverse effects and contraindications. Monitor patients for drowsiness, insomnia, trouble concentrating, and mental state/mood changes (such as agitation, confusion, and hallucinations). Suboxone may interact with other drugs, including erythromycin, rifampin, benzodiazepines, and HIV protease inhibitors. It also can accentuate the effects of medications that induce drowsiness.

Special considerations. Schedule follow-up visits to assess patient adherence and effectiveness of suboxone. To minimize suboxone misuse and dependence, monitor the patient for signs of physical or psychological effects, including nausea, headaches, insomnia, unpredictable mood swings, muscle aches, and fever. Don't administer suboxone to patients who have hypersensitivity to buprenorphine or naloxone, a history of anaphylactic shock, respiratory depression, or a history of hepatic impairment.

Naltrexone

Naltrexone is an opioid antagonist that prevents relapse in patients with OUD by blocking and binding to opioid receptors. The extended-release preparation is recommended for patients with poor treatment adherence.

Dosing. Oral naltrexone can be prescribed in one of three regimens, depending how much supervision is needed: 50 mg every weekday with a 100-mg dose on Saturday, 100 mg every other day, or 150 mg every third day. If prescribed as an injec-

tion, the usual dose of naltrexone is 380 mg, administered in the gluteal muscle every 4 weeks; a healthcare professional has to give the injection.

Adverse effects and contraindications. Adverse effects of naltrexone include vomiting, anorexia, diarrhea, headache, nervousness, injection site reactions, somnolence, and joint or muscle pain. Hepatotoxicity is a severe adverse reaction and may require liver function tests during treatment. Patients with renal impairment should not take naltrexone. In addition, don't prescribe naltrexone to patients who are currently physically dependent on opioids, have acute withdrawal symptoms, or whose urine tests positive for opiates.

Special considerations. Naltrexone injection is thought to enhance patient adherence because it eliminates concerns about missing daily doses. Regardless of the formulation, the patient should be drug free for 7 to 10 days before treatment begins. Failure to comply with this recommendation could exacerbate withdrawal symptoms. Because of the potential for hepatotoxicity, educate the patient about signs and symptoms of liver problems.

Naloxone

Naloxone reverses opioid overdose by displacing opioid agonists from receptors. It's credited with saving many lives.

Dosing. Naloxone can be administered subcutaneously, intramuscularly, intravenously, or intranasally. Intranasal administration is preferred, and the recommended initial dose is 1 mg in each nostril, one at a time, and repeated every 2 to 3 minutes if the desired degree of counteraction and improved respiratory function are not achieved. The initial dose for all other administration routes is 0.4 mg to 2 mg every 2 to 3 minutes as needed.

The dose is successful when a patient opens his or her eyes and speaks. Take care when administering naloxone because patients may "wake up" flailing and fighting, and some may be angry that their high was interrupted.

Adverse effects and contraindications. Naloxone may cause increased sweating, nausea, restlessness, trembling, vomiting, flushing, and headache. And although rare, it has been associated with arrhythmia, seizures, and pulmonary edema. Use with caution in patients with cardiac disease or in those receiving medications that may cause potential adverse cardiovascular effects, such as ventricular tachycardia, fibrillation, or hypotension.

For patients who are struggling with OUD, remain supportive and nonjudgmental.

Special considerations. Because of the increase in opioid overdoses in the United States, naloxone kits are widely distributed to emergency responders and to patients with OUD and their families. Evidence on the effects of naloxone during pregnancy and its impact on breastfeeding is inconclusive; it may be used if the potential benefits to the mother outweigh the potential risks to the unborn child.

Monitor all patients treated with naloxone for up to 2 hours. The intranasal form is rapid acting, so monitor the patient's respiratory status.

Clonidine

Clonidine is a centrally acting alpha2-adrenoreceptor agonist. As an adjunctive treatment, it reduces the sympathetic nervous system response to opioid withdrawal.

Dosing. The dosage of clonidine is 0.1 mg to 0.3 mg every 6 to 8 hours. When discontinuing clonidine, taper the dose to 0.1 mg every 3 to 7 days. Clonidine can cause rebound hypertension and bradycardia, so monitor patients' blood pressure closely.

Adverse effects and contraindications. Adverse reactions to clonidine include hypotension and syncope. Patients also should be monitored for common adverse reactions, such as sedation, nightmares, insomnia, constipation, fatigue, irritability, and dry mouth.

Special considerations. Clonidine may cause fetal harm, and it should be used with caution in women who are breastfeeding. Myocardial infarction and chronic renal failure have been reported with clonidine use. When used in combination with other drugs, such as benzodiazepines, clonidine may have a sedative effect.

Implications for NP practice

Early identification of OUD includes using validated screening tools and assessing patients for OUD risk factors. For patients who are struggling with OUD, remain supportive and nonjudgmental. Talk to them about MAT as a treatment option. Explain medication doses, contraindications, and adverse reactions, and that psychological and behavioral therapy are part of treatment. When patients agree to MAT, develop individualized plans that include their input to help prevent relapse.

The dramatic increase in misuse of prescribed opioids poses a significant public health concern with substantial morbidity and mortality rates. Individual patient education and treatment, as well as community prevention strategies, are key to the success of stopping this epidemic. ★

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1. The initial assessment for medication-assisted treatment (MAT) for opioid use disorder (OUD)
- a. can eliminate a physical examination.
- b. can be completed only by a physician.
- c. should be brief to avoid treatment delays.
- d. should include screening for psychiatric health problems.

2. The Drug Abuse Screening Test
- a. has low internal consistency.
- b. takes 20 minutes to administer.
- c. is a self-reporting questionnaire.
- d. has a reliability of .54.

3. The steps of the shared decision-making process include all of the following *except*
- a. introduce choice.
- b. limit the number of options to avoid confusion.
- c. describe options and help patients explore preferences.
- d. allow patients to participate in care decisions.

4. Early symptoms of opioid withdrawal include
- a. rhinorrhea.
- b. vomiting.
- c. abdominal cramps.
- d. dilated pupils.

5. You are a nurse practitioner (NP) managing a patient with opioid withdrawal symptoms. Which of the following would be an appropriate action?
- a. Using caution when considering loperamide to manage vomiting.
- b. Using caution when considering benzodiazepines to manage panic attacks.
- c. Prescribing prochlorperazine to relieve bowel cramps.
- d. Prescribing ondansetron to relieve anxiety and insomnia.

6. A medication used to prevent relapse as part of MAT is
- a. methadone.
- b. suboxone.
- c. naltrexone.
- d. naloxone.

7. The typical daily maintenance dose of methadone ranges from
- a. 60 mg to 120 mg, titrated until symptoms are diminished.
- b. 50 mg to 100 mg, titrated until symptoms are diminished.
- c. 20 mg to 75 mg, titrated until symptoms are diminished.
- d. 10 mg to 30 mg, titrated until symptoms are diminished.

8. Which statement about the adverse effects of methadone is correct?
- a. Torsades de pointes is associated only with multiple daily doses of methadone.
- b. Renal adrenal insufficiency may occur when methadone is used for more than 6 months.
- c. It can be used in pregnancy because it does not cause respiratory depression in newborns.
- d. Patients need to be monitored for syncope and orthostatic hypotension.

9. Which statement about buprenorphine dosing is correct?
- a. The recommended maintenance dose is 30 mg, administered twice a day.
- b. The initial dose should be given at least 8 hours after the patient last used opiates or when withdrawal symptoms first appear.
- c. Buprenorphine should be titrated to the therapeutic amount in the shortest possible time to reduce the risk of withdrawal.
- d. Tapering of buprenorphine should be done over a time frame of 15 to 60 days.

10. To obtain a Drug Addiction Treatment Act (DATA) 2000 waiver to prescribe buprenorphine, an NP needs to
- a. participate in 72 hours of training from an approved organization.
- b. complete the 36-hour MAT waiver training.
- c. obtain a DATA waiver for up to 15 patients.
- d. complete the 8- and 16-hour waiver courses.

11. Suboxone is a combination of
- a. methadone and buprenorphine.
- b. naloxone and naltrexone.
- c. buprenorphine and naloxone.
- d. clonidine and naltrexone.

12. Which of the following patients would be eligible to be considered for suboxone?
- a. A 48-year-old woman with respiratory depression.
- b. A 26-year-old woman who has hypersensitivity to clonidine.
- c. A 34-year-old man with a history of hepatic impairment.
- d. A 52-year-old man with a history of anaphylactic shock.

13. Which statement about naltrexone is correct?
- a. The extended-release preparation is recommended for patients with poor treatment adherence.
- b. The only available administration option is an oral capsule.
- c. It can be prescribed in one of four regimens, depending how much supervision is needed.
- d. The patient should be drug free for 21 days before treatment starts.

14. The preferred administration route for naloxone is
- a. intranasal.
- b. subcutaneous.
- c. intravenous.
- d. intramuscular.

15. Which statement about clonidine's use in MAT is correct?
- a. It has been approved by the Food and Drug Administration for treating OUD.
- b. The dosage of clonidine is 0.1 mg to 0.3 mg every 6 to 8 hours.
- c. Adverse reactions include hypertension and dizziness.
- d. It is safe for use in pregnant women.