MOUD
Medications for Opioid Use Disorder

SHARED DECISION-MAKING

CLINICIAN'S TOOLKIT

What is Shared Decision-Making?

Shared decision-making (SDM) involves a collaborative discussion between the patient and clinician about treatment options, advantages and disadvantages, and helps to identify the optimal treatment based on patient-specific needs and goals. Several trials have demonstrated the importance of SDM in treatment decisions. A systematic review of 25 trials including 8729 patients with substance use disorder (SUD) found that nearly half of patients preferred SDM for selection of treatment goals compared to individual patient or provider selection of treatment goals. Patients that were matched to their preferred treatment had improved substance use outcomes compared to those who were unmatched to their preferred treatment. Practicing SDM for selecting medication for treating opioid use disorder (MOUD) can help your patient choose the optimal treatment and may lead to improved outcomes. A patient-specific MOUD tool can be used with this guide to facilitate the SDM process and MOUD selection.

The Opioid Epidemic

The opioid epidemic persists and contributes to substantial morbidity and mortality The majority of patients are not receiving MOUD, a life-saving treatment. Every clinical encounter with a patient is an opportunity to initiate MOUD if not already in treatment.

> 2.5 Million
Individuals with OUD

Over 2.5 million adults had past-year opioid use disorder (OUD) based on the 2021 National Survey on Drug Use and Health led by Substance Abuse and Mental Health Services Administration (SAMHSA).

1 in 5
on MOUD

Only 20% of individuals with OUD received medication in the past year based on SAMHSA's 2021 National Survey on Drug Use and Health.

> 80,000
Overdose Deaths

Over 80,000 individuals died from opioid overdoses in 2021 per the CDC's National Center for Health Sta-tistics. Overdose deaths continue to rise , the majority related to illicit fentanyl and other potent synthetic opioids.

Medications for Opioid Use Disorder

Three effective medications exist for treating opioid use disorder: **1) methadone, 2) buprenorphine, and 3) naltrexone.** MOUD is the standard of care for patients with OUD. Patients should NOT be tapered from opioids and discharged from an inpatient setting without initiating MOUD. This practice reduces their opioid tolerance and puts them at high risk for relapse and overdose death. Deciding on an MOUD with your patient depends on multiple factors including disease severity, medical and psychiatric comorbidities, history of MOUD trials, access to different treatments, and their MOUD preference. Ideally, all three MOUD options should be offered to patients but availability may vary based on your clinical setting and the patient's ability to access treatment.

Shared Decision-Making Steps

STEP 1: Assess medical, psychiatric, and substance use history.

Assess patient's medical and psychiatric history including:

- Opioid and other substance use history; last use
- Opioid withdrawal symptoms (if any)
- Current MOUD preference and reasons for this
- Experience with previous MOUD trials (i.e., dose, treatment duration, adverse effects, +/-)

STEP 2: Provide education on MOUD options and review +/- of each.

Review MOUD options, their advantages and disadvantages, and address any misinformation or negative experiences with previous MOUD trials.

STEP 3: Address individual considerations and encourage deliberation on MOUD option.

Evaluate patient's needs, treatment goals, and circumstances (stability, adherence to treatment, support system). Consider the patient's (and your facility's) accessibility to treatment and continued care options.

STEP 4: Select MOUD together and finalize treatment plan/next steps.

Collaboratively decide on MOUD (and other SUD treatment if applicable). Review next steps and finalize treatment plan. Before discharge, review overdose prevention and harm reduction principles. Provide prescription for MOUD, (+/- bowel regimen), and naloxone (Narcan®).

COMPARING MOUD

	Buprenorphine	Methadone	Naltrexone
Pharmacology	 **Partial mu opioid agonist;** "ceiling effect"	 **Full mu opioid agonist;** generates full effect	 **Antagonist at opioid receptors;** blocks effects
Formulations	• **Sublingual tablet:** (buprenorphine-naloxone (Suboxone®); buprenorphine hcl (previously marketed as Subutex®) • **Sublingual film:** buprenorphine-naloxone (Zubsolv®, Suboxone®) • **Injectable (extended-release):** Weekly subcutaneous injection (Brixadi®; administer in buttock, thigh, abdomen, or upper arm); Monthly subcutaneous injection ((Sublocade®; administer in abdomen); (Brixadi®; as above)	• **Tablet:** methadone (Methadose®, Diskets®) • **Liquid:** methadone (Methadose®)	• **Injectable (extended-release):** Monthly intramuscular naltrexone injection (Vivitrol®; administer in buttock) • **Tablet:** limited efficacy of the naltrexone tablet related to nonadherence with daily dosing and NOT recommended for OUD treatment Note: Vivitrol® is also an FDA-approved treatment for alcohol use disorder and may be optimal for patients with comorbid alcohol dependence
Regulations and Availability	Schedule III; **any prescriber with a DEA license can prescribe** (X waiver eliminated in 2023)	Schedule II; only available at federally-certified opioid treatment programs and acute inpatient hospital setting	Not a scheduled medication; injection available outpatient and in inpatient addiction treatment facilities; not commonly available in acute inpatient hospital setting
Initiation	Presence of opioid withdrawal symptoms recommended prior to first dose to reduce risk of precipitated withdrawal (i.e., buprenorphine has high affinity for mu receptors and will displace other opioids)	Can initiate before the patient starts to experience opioid withdrawal symptoms	Patients must be off opioids for some time prior to initiation
Time to Therapeutic Dosing	**Within 24-72 hours generally (tablet/film);** dose titration should target opioid withdrawal symptoms and/or opioid cravings with a target maintenance dose of 16-24mg (fentanyl-dependent patients may require up to 32mg); see official prescribing information for injectables dosing schedule	**1-3 weeks generally if new to treatment;** no more than 40mg can be given on Day 1 to avoid oversedation and respiratory depression; dose uptitrated 5-10mg every 2-3 days (steady state takes 4.5 days so slow titration is critical); initial target dose was commonly 80-100mg for heroin-dependence but higher doses (150mg and greater) are increasingly common with higher levels of physical dependence associated with fentanyl	**Varies (generally longer timeline ranging 5-14 days);** opioid-dependent individuals must undergo "opioid washout" prior to initiation of injectable naltrexone (380mg) to avoid precipitating withdrawal
Common Adverse Effects	Constipation, vomiting, headache, sweating, insomnia, blurred vision	Constipation, vomiting, sweating, dizziness, sedation	Nausea, vomiting, injection site reactions, muscle cramps, dizziness or syncope, insomnia, somnolence, anorexia, nasopharyngitis, toothache
Contraindications/ Precautions See official prescribing information for complete list.	**Hypersensitivity:** Contraindicated if allergic (i.e., anaphylaxis) to buprenorphine or any formulation component; patient may report allergy but distinguish between anaphylaxis versus precipitated withdrawal **Respiratory Depression and Overdose:** Overdoses are less common due to "ceiling threshold" but can occur (most cases involve IV buprenoprhine misuse, concurrent CNS depressant use (incl. benzodiazepines, alcohol); monitor closely if significant respiratory disease **Hepatotoxicity:** Cases of hepatitis and liver dysfunction have been observed but the majority of cases were seen in patients with predisposing hepatic risk factors (i.e., hepatitis infections, alcohol-related hepatitis) Hypotension, QT prolongation (less risk compared to methadone), CNS depression (i.e., caution operating machinery, driving), avoid in acute abdominal conditions if concerned about obstruction or paralytic ileus	**Hypersensitivity:** Contraindicated if allergic to methadone or any formulation component **QT Prolongation:** QT prolongation and arrhythmias (torsades de pointes); dose-dependent and more commonly associated with (but not limited to) doses >200mg/day **If QT interval > 500ms then reduce methadone dose; review other QT prolonging agents and reduce dose or discontinue if feasible (See CredibleMeds® for complete list of QT-prolonging agents)** **Respiratory Depression and Overdose:** Caution during initiation or conversion to methadone (**peak respiratory depresssant effect of methadone occurs later and persists longer than the peak analgesic effect (especially during initial dosing)**; concurrent CNS depressants may lead to respiratory depression and overdose; monitor in cases of respiratory disease Hypotension, CNS depression (i.e., caution operating machinery, driving), avoid in acute abdominal conditions	**Hypersensitivity:** Contraindicated if allergic (i.e., anaphylaxis) to naltrexone or any formulation component; patient may report allergy but distinguish between anaphylaxis versus precipitated withdrawal **Hepatotoxicity:** Cases of hepatitis and liver dysfunction have been observed (the majority transient, asymptomatic liver transaminase elevation); monitor liver function **Vulnerability to Overdose:** After Vivitrol® treatment, opioid tolerance is reduced from pre-treatment baseline and patients are vulnerable to overdose at the end of a dosing interval, after missing a dose, or discontinuing **Emergency Pain Management:** Consider non-opioid alternatives (i.e., regional analgesia, nonopioid analgesics, general anesthesia); if opioid therapy is required, patients should be under direct care of anesthesia provider Suicidal thoughts, depression, caution with intramuscular injection in patients with bleeding disorders or thrombocytopenia due to potential bleeding/hematoma
Pain	Interval dosing every 6-8 hours for acute pain; can treat chronic pain; buccal film and transdermal patch for pain management may be used in inpatient hospital setting for micro-dosing inductions	Interval dosing every 6-8 hours for acute pain; can treat chronic pain	Some OUD patients on opioid agonists for pain may develop hyperalgesia and Vivitrol® may be a good treatment option with non-opioid medications and interventional procedures for pain management
Pregnancy/ Breastfeeding	Recommended OUD treatment in pregnancy; neonatal withdrawal less severe and shorter duration compared to methadone; breastfeeding okay with <1% in milk	Recommended OUD treatment in pregnancy; breastfeeding okay with minimal amounts found in breast milk	Not recommended in pregnancy or breastfeeding; if patient is stable on Vivitrol® and becomes pregnant, clinician should weigh risks/benefits of continuing Vivitrol®
Hepatic Impairment	Dose reduction in severe, decompensated liver disease (Child-Pugh class C): • Buccal film and tablet: 50% reduction in initial and incremental dosing • Injection: Use is not recommended	No specific dose adjustments in manufacturer's labeling; however, undergoes hepatic metabolism and consider dose adjustments in cases of decompensated liver disease (monitor for oversedation and respiratory depression)	Use is not recommended in acute hepatitis or hepatic failure; naltrexone's AUC (area under the curve) increases about 5- and 10-fold in patients with compensated or decompensated hepatic cirrhosis
Kidney Impairment	No dosage adjustment necessary	Concentrations not substantially altered BUT electryolyte abnormalities with kidney impairment may increase risk for QT prolongation	No specific dose adjustments in manufacturer's labeling; however, naltrexone's primary metabolite is excreted in urine so monitor in moderate-to-severe impairment

MOUD +/-

	Buprenorphine	Methadone	Naltrexone
Potential Advantages (+)	**(+)** Greater availability/accessibility generally compared to other MOUD **(+)** Can titrate to therapeutic dose more quickly than methadone generally **(+)** Does not necessarily require daily visits during initial dose titration (whereas methadone does) **(+)** Less risk for overdose than methadone with "ceiling effect" **(+)** Less risk of QT prolongation compared to methadone **(+)** Can treat comorbid pain	**(+)** Do not need to be in opioid withdrawal to initiate **(+)** Available in federally-regulated opioid treatment programs which may have additional services to support patient's care **(+)** Once patient is on stable dose, may access more "take home" doses and require fewer clinic visits **(+)** Can treat comorbid pain	**(+)** Relapse prevention therapy for individuals who do not prefer opioid agonists or failed previous trials **(+)** No issues with daily pill nonadherence with monthly injection **(+)** Treats OUD and comorbid alcohol use disorder **(+)** Although does not treat pain, can be a good option for patients with OUD and opioid-related hyperalgesia and then optimizing non-opioid pain management
Potential Disadvantages (-)	**(-)** Generally, patients need to be in opioid withdrawal to initiate **(-)** Patient hesitations/misconceptions: a) fearful of "precipitated withdrawal" or prior negative experience with too rapid of induction; b) belief that it is "replacing one addiction for another" **(-)** Risk for overdose if mixed with other sedating agents (i.e., benzodiazepines or alcohol)	**(-)** Slower titration to therapeutic dose (compared to buprenorphine) due to risk for overdose **(-)** Less accessibility with methadone for OUD treatment being available only in federally-regulated programs **(-)** Subacute rehabilitation programs often do not accept patients requiring methadone maintenance **(-)** QT prolongation risk **(-)** Patient hesitations/misconceptions: a) belief that it is "replacing one addition for another," b) misconception that methadone doses get people "high"	**(-)** Patients must be off opioids for a certain period of time (~ 5 to 7 days) before receiving Vivitrol® injection **(-)** High risk for overdose if patient does not get subsequent naltrexone injections **(-)** Patient hesitations/misconceptions: a) fearful of "precipitated withdrawal" or prior negative experience with someone administering naloxone or naltrexone before opioids out of system; b) fear of general opioid withdrawal to complete opioid "washout" period; c)hesitant to receive injections; d) patient is not ready to abstain from opioids and have effects blocked

Additional Resources

For more information on OUD management including clinical tools, training modules, and opportunities for clinical roundtable discussions:
Providers Clinical Support System (PCSS)
https://pcssnow.org/

To find substance use treatment for your patient:
SAMHSA's Treatment Locator
https://findtreatment.gov/

For overdose prevention education and training with naloxone (Narcan®) to reverse an opioid overdose:
https://learning.drugfree.org/courses/opioid-overdose-prevention-basics/

Opioid Response Network

American Academy of Addiction Psychiatry

PCSS Medications for Opioid Use Disorders — Providers Clinical Support System

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