Best Practices in Emergency Medicine –
Tips For Treating Opioid Use Disorder with Buprenorphine

THE SITUATION

Opioid use disorder (OUD) is treatable with medication and support, but rates in the US have reached epidemic proportions. Emergency departments (EDs) are uniquely positioned to offer buprenorphine, an evidence-based life-saving treatment, when patients are most open to receiving it, but few currently offer it.

SAMPLE BUPRENORPHINE INITIATION WORKFLOW*

STEP 1 Identify patients	• Those with acute opioid withdrawal, *or*; • With OUD based on DSM-5 criteria (see page 2), *and*; • Are ready to begin treatment
STEP 2 Determine time since last opioid	Patients should **meet minimum time requirements prior to induction:** • Short-acting (e.g., oxycodone, heroin): at least 8-12 hours • Extended release (e.g., oxycontin): at least 24 hours • Long-acting (e.g., methadone): at least 72 hours • Fentanyl: precipitated withdrawals can occur after 72 hours. If use is suspected, base induction start time of level of withdrawal (step 3)
STEP 3 Identify level of withdrawal	Use the Clinical Opiate Withdrawal Scale (**COWS**) to measure withdrawal severity • https://www.mdcalc.com/calc/1985/cows-score-opiate-withdrawal

STEP 4
Initiate treatment
	• **If fentanyl is suspected** and COWS ≥ 16 with 2 or more objective signs of withdrawal (e.g., pupils > 3mm, heart rate > 100 bpm), give 8-16mg SL. Observe for 45-60 minutes.
	• **If fentanyl is not suspected** and COWS ≥ 10 with at least one objective sign of withdrawal give 2-8 mg SL based on severity of symptoms. Observe for 45-60 minutes.
	  ○ Use higher dose if patient is a heavy opioid user or COWS ≥ 13
	  ○ If patient is on long-acting opioids, wait until COWS ≥ 13
	• **If COWS threshold is not met**, consider home induction, observe until COWS is met, or refer to outpatient treatment
	• **If the patient has completed withdrawal** (several days to weeks since last opioid), but cravings persist, give 2-8mg SL. Observe for 30-60 minutes.

STEP 5 Subsequent dosing	• If withdrawal symptoms are still present after observation, give second dose and observe • Give supportive medications as needed (see page 2) • Titrate until symptoms resolve, up to 32mg maximum. High doses are only recommended for those not at risk for respiratory depression
STEP 6 Discharge Planning	• With care navigator, refer to **outpatient treatment** as soon as possible • With care navigator, provide **harm reduction strategies** such as take-home naloxone kit, overdose education, reproductive health counseling, safe injection practices • Provide **prescription** for buprenorphine/naloxone 16mg-24mg (higher doses for those using fentanyl) for 1-2 weeks, or until date of scheduled follow up appointment

*Significant variations exist within published clinical guidance. Patient presentation, the substance used, how much, and for how long will all affect the level of withdrawal needed to be reached, as well as the dose amounts given. These recommendations are not meant to be prescriptive in any manner, but to serve as a foundation to build your own protocols. Providers should continue to use clinical judgement when initiating buprenorphine.

OUD DIAGNOSIS CRITERIA[1]

1. Often using in larger amounts or for longer than intended
2. Persistent desire or unsuccessful efforts to reduce or control use
3. Great deal of time spent obtaining, using, or recovering
4. Craving or strong desire to use
5. Failure to fulfil major work/school/home obligations due to use
6. Social/interpersonal problems caused or exacerbated by use
7. Important activities stopped or reduced because of use
8. Recurrent use in physically hazardous situations
9. Physical or psychological problems caused/exacerbated by use
10. Tolerance (need for increased amounts of opioids to achieve desired effect or diminished effect with continued use of the same amount)
11. Withdrawal (opioid withdrawal syndrome or taking the substance to relieve or avoid withdrawal symptoms)

MILD: 2-3 criteria
MODERATE: 4-5
SEVERE: 6 or more

SUPPORTIVE MEDICATIONS

Supportive medications, such as the following, may be used to manage withdrawal symptoms:

Nausea/vomiting	ondansetron, promethazine
Myalgias	acetaminophen, ibuprofen
Insomnia	trazodone
Restlessness/agitation*	gabapentin, lorazepam, diazepam

Diarrhea	loperamide
Muscle spasms	tizanidine, methocarbamol
Abdominal cramping	hyoscyamine
Anxiety/dysphoria	hydroxyzine, diphenhydramine, clonidine

*If using a benzodiazepine, consider observing for 1-2 hours prior to discharge

ADDITIONAL CONSIDERATIONS

- Concurrent sedative use: Use caution if the patient has alcohol intoxication, uses benzodiazepines or other sedatives. Consider observation until sedative effects have subsided.
- Precipitated withdrawal: If withdrawal symptoms suddenly and significantly worsen after the first dose, suspect buprenorphine precipitated withdrawal (BPW). There are two different pathways to treat BPW, one is to treat the withdrawal symptoms and abort the induction, the second is to aggressively continue with higher doses of buprenorphine. There is a lack of evidence to recommend one over the other. Consult an addiction medicine specialist if possible and consider admitting the patient for observation.
- Complex patients: Consider a specialist consult for complex inductions such as methadone use, serious acute medical illness, altered mental status, planned surgeries, chronic opioid therapy for pain, moderate to severe liver disease, or respiratory failure.
- Pregnancy: While buprenorphine is safe to use in pregnancy, withdrawal can increase the risk of miscarriage. Use buprenorphine mono-product and consider admission to L&D with fetal monitoring.
- Formulations: Sublingual (SL) films and tablets are recommended for use in the ED. IV buprenorphine may be used if vomiting prevents SL administration. Buprenorphine with or without naloxone may be administered in the ED. Naloxone is traditionally added as an abuse deterrant as it has low bioavailability through SL absorption, but is expected to cause withdrawal if crushed and injected. However, recent evidence suggests naloxone may not be an effective deterrant.[2]
- Micro-induction: There is emerging acceptance of rapid micro-induction of buprenorphine to minimize withdrawal symptoms and risk of precipitated withdrawal. Providers are encouraged to learn about this technique. However, it is not currently recommended in the ED.[3]
- Education: Advise patients to keep buprenorphine in safe storage and away from children.

ABOUT FENTANYL

Due to the high prevalence of Fentanyl in the current illicit drug supply, **use should be suspected unless it can be confirmed otherwise**. If available, rapid urine screens can be used to assess for use.

Recent evidence suggests that in patients with long-term or heavy fentanyl use, **precipitated opioid withdrawal can occur more often with buprenorphine induction**[4], even after waiting several days after use.[5] This is thought to be caused by fentanyl's unique pharmacological properties:[6]

- Fentanyl has **high lipophilicity**, so is stored and gradually released from fat tissue
- Fentanyl has a considerably **extended renal clearance** time when compared to other short-acting opioids (up to several weeks)

In addition to the amount and length of time that fentanyl has been taken, physical dependence, genetics, comorbidities, polysubstance use, and more may affect the buprenorphine threshold dose that will precipitate withdrawals. Therefore, although protocols may serve as a helpful guide, providers are encouraged to **adapt their approach to each individual patient**.[5] Expert consultation should be sought if needed.

RESOURCES

- Management of Opioid Use in the Emergency Department: A White Paper Prepared for the American Academy of Emergency Medicine. https://www.aaem.org/UserFiles/file/AAEMOUDWhitePaperManuscript.pdf
- CA Bridge: Buprenorphine (Bup) Emergency Department Quick Start. https://cabridge.org/resource/buprenorphine-bup-hospital-quick-start/
- ACEP Buprenorphine Use in the Emergency Department (BUPE) Tool. https://www.acep.org/patient-care/bupe/
- ACEP E-Qual Opioids Toolkit. https://www.acep.org/administration/quality/equal/emergency-quality-network-e-qual/e-qual-opioid-initiative/e-qual-opioid-toolkit/
- SAMHSA Use of Medication-Assisted Treatment in Emergency Departments. https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/pep21-pl-guide-5.pdf

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