Considerations for Inpatient Management of Patients with OUD

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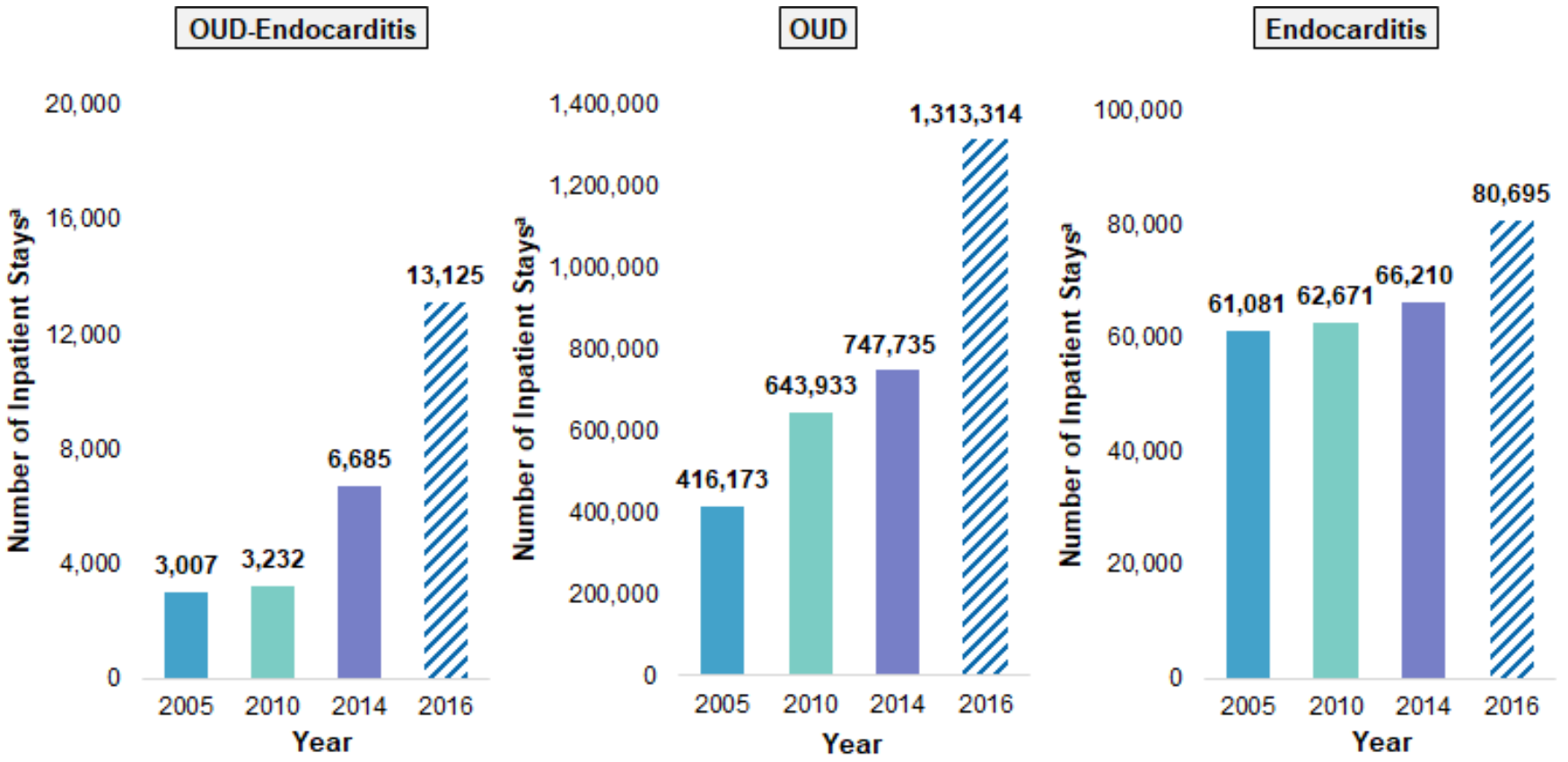
Heartland Hospital Medicine Conference

Disclosures

None

Learning Objectives

- Participants will be able to:
  - Appropriately treat withdrawal and acute pain in patients with OUD
  - Identify patients in which MOUD is indicated
  - Effectively employ MOUD initiation strategies
  - Demonstrate necessary skills to navigate potentially difficult patient interactions

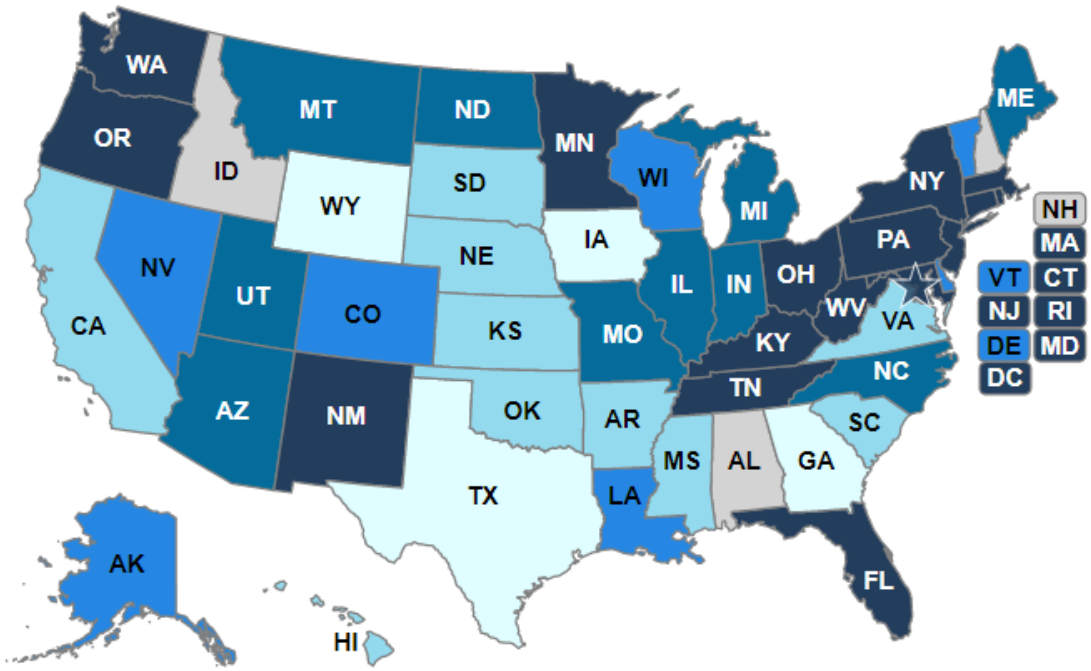


Hospital Inpatient Stays Related to Opioid Use Disorder and Endocarditis, 2016 #256 (ahrq.gov)

University of Kentucky

Rate of Opioid-Related Inpatient Stays per 100,000 Population

2017 National rate: 299.7



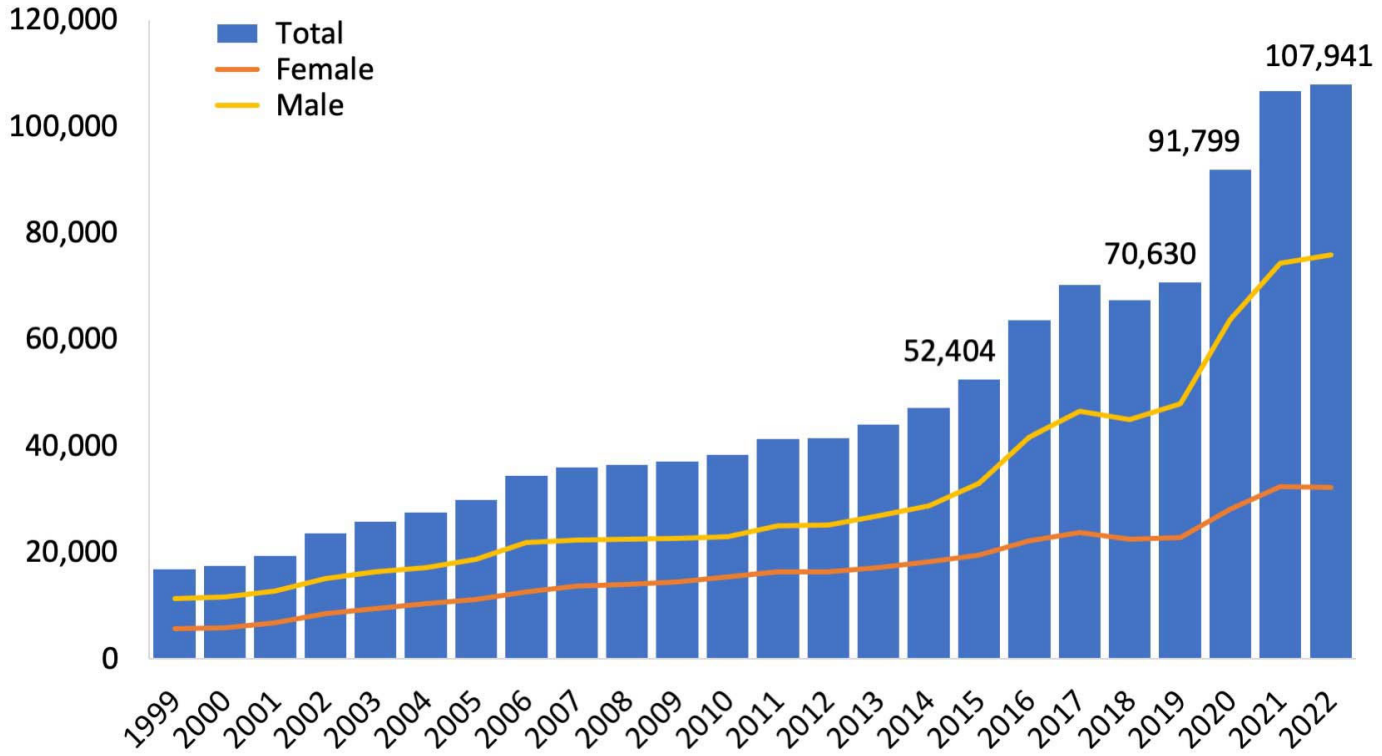
No Data	< 161	161 - 230	231 - 280	281 - 350	> 350

Inpatient stays include those admitted through the emergency department.
States are classified into five categories which were defined based on an equal grouping of States in 2015.
Data Notes & Methods and Data Export options are available within the data exploration tool.

Opioid Hospital Use Map - HCUP Fast Stats (ahrq.gov)

University of Kentucky

Figure 1. National Drug Overdose Deaths*, Number Among All Ages, by Sex, 1999-2022



*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 1999-2022 on CDC WONDER Online Database, released 4/2024.

Case

Jessica is a 23yoF with history of OUD with IV use who presented to the ED due to 3 days of fever and back pain. She presented to another hospital 2 days ago, but left patient directed due to her pain not being controlled. Workup revealed thoracic epidural abscess with concern for osteomyelitis. She says she is having terrible back pain and says she needs something for it.

Diagnosing Opioid Use Disorder

- First step in providing effective care
- Quick screen
- If positive, conduct a nonjudgmental clinical evaluation
  - History
  - Frequency of use
  - Amount
  - Route
- Diagnose using DSM-V

Diagnosing Opioid Use Disorder

Physiologic sequelae

- Tolerance
- Withdrawal
- Craving

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Loss of control
- Greater amount / time than intended
- Persistent desire but unable to cut down
- Excessive time getting, using, recovering

Diagnosing Opioid Use Disorder

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Adverse consequences
- Failure to fulfill responsibilities
- Use in physically hazardous situations
- Social/interpersonal problems
- Give up or ↓ other important parts of life
- Ongoing use despite these problems

Recognizing Opioid Withdrawal

- Heart Rate
- Sweating
- Restlessness
- Pupil size
- Myalgias/joint pain
- Runny nose/teary eyes
- GI upset
- Tremor
- Yawning
- Anxiety
- Gooseflesh skin

Mild: 5-12

Mod:13-24

Sev: >25

Non-Stigmatizing Approach

- Evaluate your own bias
  - Objective approach to a chronic medical condition with evidence based treatment
- Important to reinforce with the patient that OUD is a chronical medical condition
- Use non-stigmatizing language both with the patient and in documentation

Patient-centered Language

Stigmatizing language	Preferred language
Drug abuse	Drug use or misuse
Addict, drug abuser, junkie	Person with SUD, person in active use
IVDU (IV drug user)	PWID (person who injects drugs)
Clean, sober	In recovery or remission
Dirty	UDS positive for *insert drug*
Relapse	Return to use
AMA discharge	Patient directed discharge

Consequences of Stigma

- Patients often delay seeking medical care due to prior stigmatizing experiences
  - Use right before presentation due to undertreatment of pain and withdrawal
- In-hospital use
- Patient directed discharge
  - Increased risk of overdose
- Barrier to patients being open to starting MOUD

Case

You are able to ascertain from Jessica that she has been using fentanyl IV multiple times per day for over a year. She was given morphine 2mg earlier and she says ”it’s not even touching my pain, I am miserable.”

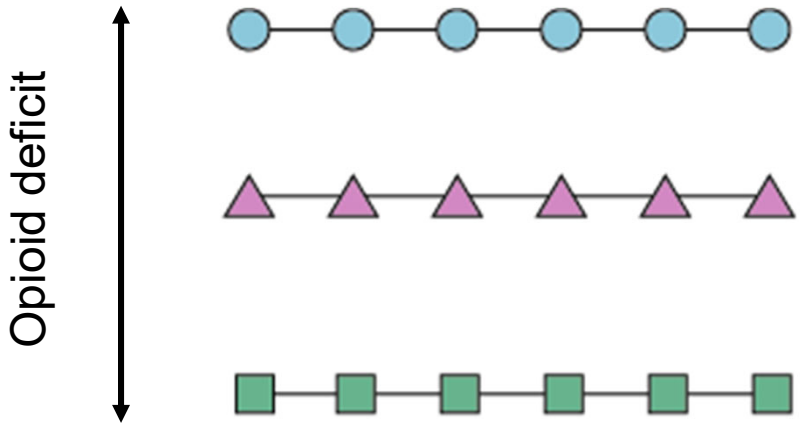
You obtain a COWS and it is 14.

Treating Opioid Withdrawal

- **OPIOIDS**
  - MOUD- methadone or buprenorphine
  - Full agonists
- Adjuncts
  - Anti-emetics
  - Muscle relaxers
  - Clonidine
  - Loperamide

*Can be complicated by increase in incidence of fentanyl use

Withdrawal and pain control



No withdrawal

Patients with OUD have opioid tolerance

Treatment of Acute Pain

- Multi-modal pain control
  - Acetaminophen
  - NSAIDs
  - Muscle relaxers
  - Opioids
    - Full agonists that are not MOUD
    - **MOUD**
  - Local block
  - Non-pharmacological
  - Ketamine

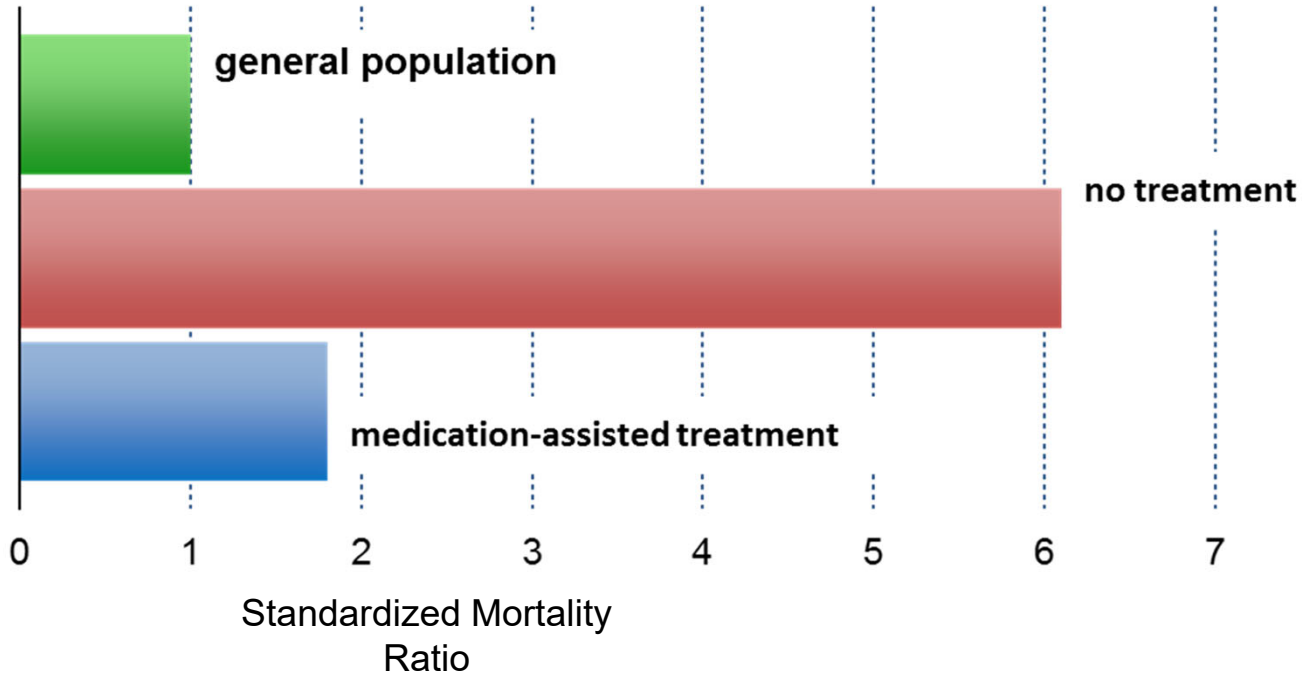
Why MOUD?

- Treat pain and OUD
- Mortality benefit
- **MOUD underutilized**
  - **2019: 10-15% of patients with OUD received MOUD over last 1yr**
  - **2021: ~22% of patients with OUD received MOUD over last 1yr**

Willliams et.al, 2019
Jones et.al, 2023

Mortality benefit

Death rates:



Dupouy et al., 2017
Evans et al., 2015
Sordo et al., 2017

MOUD

- MOUD with buprenorphine and methadone
  - ↓ all cause mortality
  - ↓ risk of overdose
  - ↓ risk of serious opioid-related care

Wakeman et.al, 2020
Larochelle et.al, 2018

Talking about MOUD with Patients

- Appropriate pain control and treatment of withdrawal creates trust in the therapeutic relationship
  - Opportunity to better discuss treatment options with MOUD
- Help augment pain control to help wean full agonists
- **Mortality benefit**

Case

You ask Jessica if she's ever been on methadone or buprenorphine. She says that she has only taken bup off the street but has never been on methadone. She's worried about getting sick like she did on the street last time she took it. She wants to know more about both options.

MOUD Overview

- 3 FDA approved MOUDs:
  - Buprenorphine
  - Methadone
  - Naltrexone
- Reasonable to continue full agonists until you can engage patient in more meaningful conversation
- Not a one size fits all

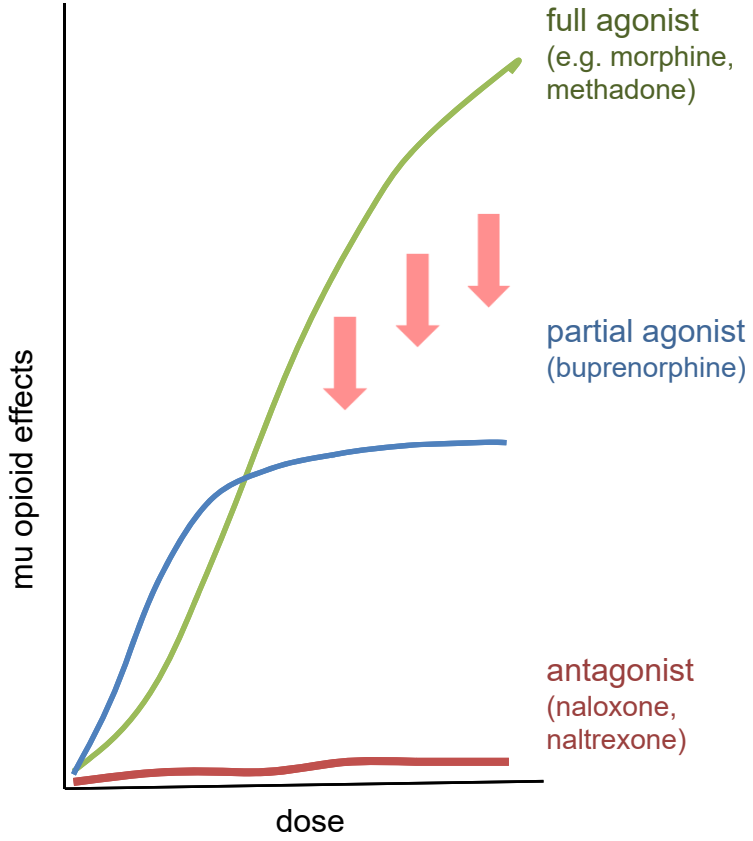
Pharmacology of Buprenorphine

Partial agonist at mu receptor
- Comparatively minimal respiratory depression

Long acting
- Half-life 24-36hrs

High affinity for mu receptor
- Blocks other opioids
- Displaces other opioids→ precipitated withdrawal

Slow dissociation from receptor



SAMHSA, 2018
Orman & Keating, 2009

Pharmacology of Buprenorphine

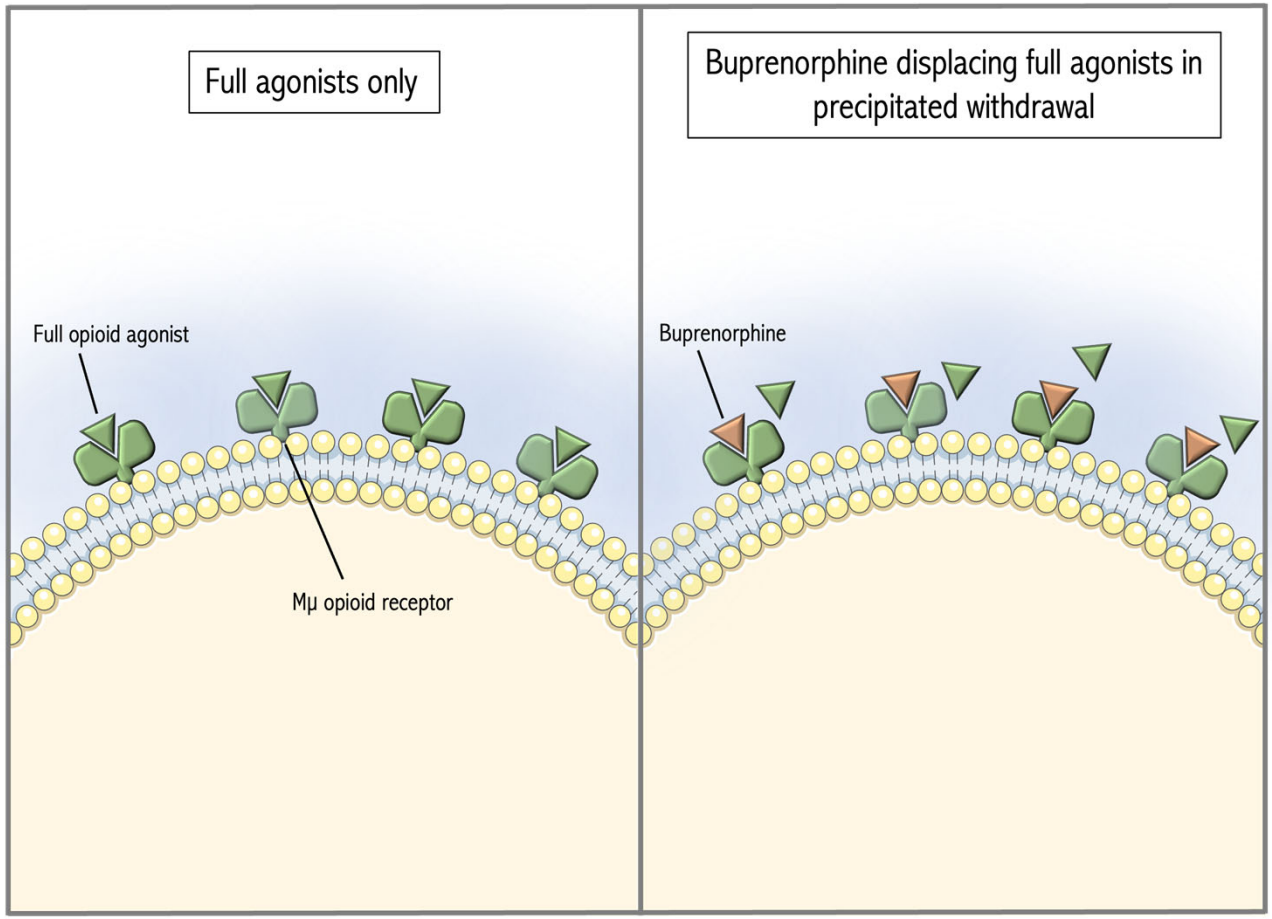


Figure 1: Mμ opioid receptors occupied by full opioid agonists followed by precipitated withdrawal with buprenorphine. The Figure was partly generated using Servier Medical Art, provided by Servier, licensed under a Creative Commons Attribution 3.0 unported license.

South, et.al, 2022

Pharmacology of Methadone

Full agonist at mu receptor

Long acting

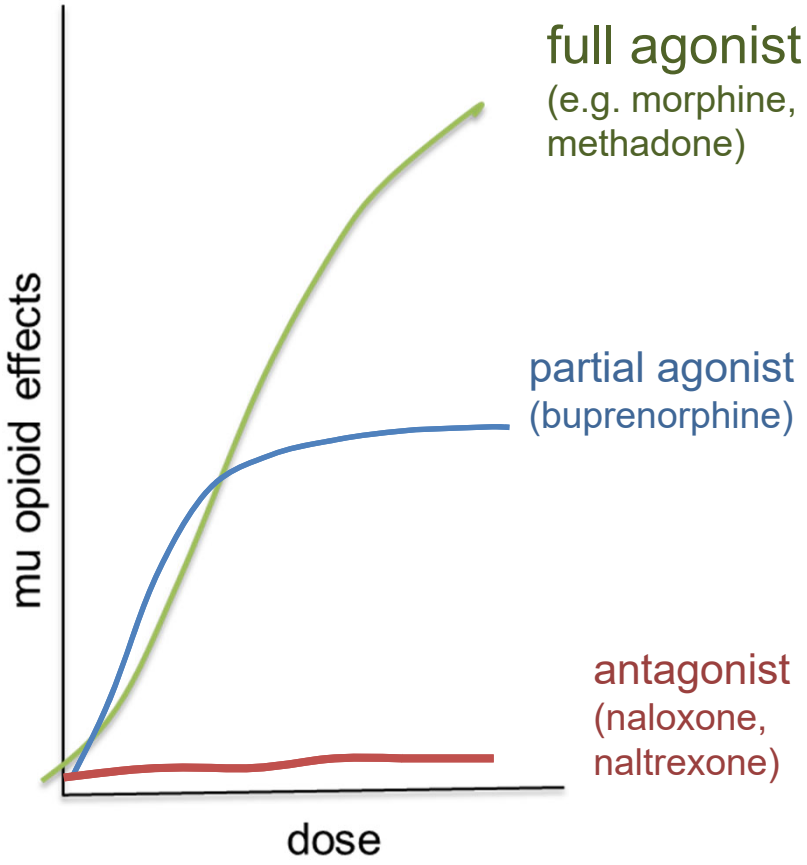
- Half-life ~15-60hrs

Weak affinity for mu receptor

- Displaced by partial agonists or antagonists

Monitoring

- Respiratory depression
- QT prolongation



Barriers to Methadone Treatment

- Can only be dosed at a federally certified OTP
- **Cannot legally provide prescription on discharge**
- **Daily** dosing for at least 90 days, requires transport
- Proof of hospitalization
- Government ID

Naltrexone

- Full opioid antagonist
- Not preferred in acute hospitalization
  - Prolonged washout period (7-10 days)
    - Decreases tolerance→ increased risk of overdose if return to use
  - Does not treat pain or cravings
  - No evidence to support mortality reduction

Case

After discussion treatment options with Jessica, joint decision is made to initiate treatment with buprenorphine. She asks you specifically about precipitated withdrawal.

March 30, 2023

Incidence of Precipitated Withdrawal During a Multisite Emergency Department–Initiated Buprenorphine Clinical Trial in the Era of Fentanyl

Gail D'Onofrio, MD, MS[1,2,3]; Kathryn F. Hawk, MD, MHS[1,3]; Jeanmarie Perrone, MD[4]; et al

» Author Affiliations | Article Information

JAMA Netw Open. 2023;6(3):e236108. doi:10.1001/jamanetworkopen.2023.6108

- 1200 total patients
- 18yrs or older
- Moderate-severe OUD
- Opioid positive (including fentanyl), methadone negative UDS
- COWS >8

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- 1200 total patients
  - 9 with precipitated withdrawal
    - Only 1 patient >24h since last use
    - 4 with XR buprenorphine

How to Initiate bup/nlx

Day 1: Transition from short-acting opioid agonist—at least 8-12hrs after last dose AND COWS >8

If using fentanyl, reasonable to wait until COWS 10-12 or consider micro-induction with help of Addiction Consult if available

- Give bup/nlx 4mg/1mg under tongue—hold saliva until fully absorbed (5-10mins)
- Check COWS in 90 mins—if not sedated and no precipitated withdrawal, give another 4mg/1mg
- Can repeat another 4mg/1mg dose if COWS > 8 or ongoing pain
- "Max" dose 12mg on day 1

How to Initiate bup/nlx

Day 2:

- Give Day 1 total dose as consolidated dose under tongue
- Check COWS in 90 mins—if not sedated and COWS >8, give another 4mg/1mg
- “Max” dose 16mg on day 2

How to Initiate bup/nlx

Day 3 and onward:

- Give Day 2 total dose as consolidated dose under tongue
- 80-95% of receptors saturated at 16mg

Precipitated Withdrawal

- Usually ~1hr after dose
- Management
  - More buprenorphine
    - 2mg q1h until COWS<8
    - 8mg dose and reassess
  - Full agonists

Initiating Methadone

- Obtain EKG
- Starting dose 30-40mg liquid daily (can be split into BID or TID while inpatient)
- Opioid Treatment Programs (OTPs) typically increase by 5mg q5 days (takes ~5 days for steady state)
  - "START LOW AND GO SLOW" (even in high tolerance)

Case

In addition to starting scheduled acetaminophen, methocarbamol, and ketorolac, you give her a dose of bup/nlx 4mg/2mg. You re-evaluate Jessica 90 minutes after the dose and her COWS is down to 9. You order another 4mg dose and 90 minutes after the second dose, her COWS is down to 3 and pain is slightly improved. Pain is further improved after a third dose of 4mg.

Case

The next morning, her withdrawal has resolved, but pain is still about 8/10.

You give her the consolidated 12mg in the morning, and due to ongoing pain another 4mg 90 minutes later, but her pain is still 7/10.

Pain Management on MOUD

- **Maintain MOUD**
  - Consider split dosing
- **Add opioids on top of MOUD**
  - No precipitated withdrawal once at steady state of bup/nlx
  - Higher doses of full agonists (and higher potency)
- Remember non-opioid options
- **Do not titrate methadone to acute pain**

Case

You decide to split her dosing to 8mg BID and start full agonists as well. You start oxycodone 10mg q4h PRN. You re-evaluate her again in a couple of hours and her baseline pain is now 6/10 as long as she is at rest, but increases to 8/10 with movement. You increase oxycodone to 15mg q4h PRN.

You check in with the nurse in the afternoon and she says that Jessica is much more comfortable.

What if patient declines MOUD?

- **Patients with OUD have opioid tolerance**
- **Full agonists do not "make addiction worse"**
- Key = frequent evaluation and adjustment in early stage
  - **Higher doses may be needed**
- Okay to give IV if patient in severe pain or withdrawal

Reframing: Behavior as Symptoms

- OUD develops over many years
  - Oftentimes experience significant trauma
- Behaviors associated with substance use disorders:
  - Low distress tolerance
  - Unhealthy coping
  - Difficulty regulating emotions

Useful Reminders for Interactions

- Help set realistic expectations
  - Opioids at discharge
  - In hospital use, drug screens
- Prioritize trust (e.g. med changes)
- Remain patient centered
- Focus on what you can control as opposed to patient's decision
- Patient education

Micro-induction

- Patients do change their minds often once pain well controlled
- Micro-induction very well tolerated
- Especially useful for patients who are apprehensive because of prior experience of precipitated withdrawal
- Multiple ways to do it
  - 3-7 day protocols

South et.al, 2022

Case

Jessica's pain is well controlled pre-operatively leading up to thoracic spine I&D/washout. Post-operatively, her buprenorphine was continued and pain was well controlled on IV hydromorphone + ketamine PCA for 3 days and was successfully transitioned to PO pain regimen with occasional IV doses in the first few days.

Case

While she finishes her 6 weeks of antibiotics inpatient, she is also successfully weaned off full agonists and her cravings and pain are stable on bup/nlx 16mg/4mg daily. She is ready for discharge.

Transition of Care at Discharge

- Case management can help set up initial appointments for bup/nlx as well as OTP (some only do walk in hours)
  - Provide bridge rx for buprenorphine/nlx at discharge until scheduled appointment
  - Methadone: f/u within 48hrs to avoid withdrawal
- findtreatment.gov
- Provide naloxone

Harm Reduction

- Screen for HIV, viral hepatitis and STIs
- Naloxone
- Provide information about local syringe exchange services
- Educate about safer use
  - Alcohol swabs
  - Water source
  - Injection sites
  - Counsel about reduced tolerance
  - Fentanyl test strips/test dose
- Never use alone

Harmreduction.org

Questions?

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Feedback/Questions

Resources