1. Please make sure you are dialed into the call using the call-in information provided through the Zoom link.
2. Open-discussion is encouraged on today’s call. Use the “raise your hand” feature to speak.
Today’s Moderator

Jeanmarie Perrone, MD, FACMT

Professor of Emergency Medicine
Director, Division of Medical Toxicology
University of Pennsylvania
Is Buprenorphine the Solution to the Evolving Opioid Epidemic?
Objectives

Define components of effective MAT

Understand buprenorphine pharmacology and mechanism of action.

Lower the barriers to engage patients into treatment with buprenorphine.
Drug deaths PA 2017

https://data.pa.gov/Opioid-Related/Estimated-Accidental-and-Undetermined-Drug-Overdos/apm5-9wfy
Take home naloxone?

10 percent revived by Narcan in Mass. died within year, study says
What do we know about treatment?

- Detoxification and counseling alone is ineffective
- Detoxification and counseling alone may be dangerous
- Patients need a relapse prevention medication
- Treatment of opioid addiction is long-term
The ideal medicine

• Stops withdrawal
• Reduces craving
• Blocks the euphoria from opioids
• Safe
• Inexpensive
Ten Steps the Federal Government Should Take Now to Reverse the Opioid Addiction Epidemic

Andrew Kolodny, MD¹; Thomas R. Frieden, MD, MPH²

Author Affiliations | Article Information

JAMA. Published online October 12, 2017. doi:10.1001/jama.2017.14567
M.A.T.

“…should be routinely offered in primary care, emergency departments, and hospital inpatient services to increase treatment uptake.”
What is M.A.T?

Medically Assisted Treatment: MAT

Medications for Opioid Use Disorder MOUD

- Methadone
- Buprenorphine
- Naltrexone
Buprenorphine-Naloxone (Suboxone)

- Buprenorphine is a partial mu-opioid agonist
- Naloxone is a complete opioid antagonist

**SUBLINGUAL FILM**

**TABLETS**
Have you ordered buprenorphine?
Barriers to Buprenorphine

• It’s just one addiction for another
• I don’t have the “x waiver” training so I don’t feel comfortable
• I’m not paying $200.00 to Rx a drug that Pharma companies are making money on
• I’m just not sure how to do it
• What about follow up??
Title 21, Code of Federal Regulations, Part 1306.07(b)

Allows to administer (but not prescribe) narcotic drugs for the purpose of relieving acute withdrawal symptoms while arranging for the patient's referral for treatment

- Not more than 1-day's medication may be administered to a patient at one time
- Patient must return to ED each day for no more than 72 hours
- This 72-hour period cannot be renewed or extended.
Buprenorphine Pharmacology

A graph showing the relationship between opioid effect and log dose for different drug types:
- Full Agonist (Methadone)
- Partial Agonist (Buprenorphine)
- Antagonist (Naloxone)
Heroin overdose deaths during expansion of methadone and buprenorphine treatment, Baltimore 1995-2009

**Figure 1**—Heroin overdose deaths and opioid agonist treatment: Baltimore, MD, 1995–2009.

Schwartz AJPH
D’Onofrio: Emergency Department-Initiated Buprenorphine/Naloxone Treatment for Opioid Dependence: A Randomized Clinical Trial. JAMA 2015
MAT: 2x More Likely to be Engaged in Addiction Treatment at 30 Days

D’Onofrio: Emergency Department-Initiated Buprenorphine/Naloxone Treatment for Opioid Dependence: A Randomized Clinical Trial. JAMA 2015
Natural History of Opioid Use Disorder

- **Euphoria**
- **Normal**
- **Withdrawal**

<table>
<thead>
<tr>
<th>Acute use</th>
<th>Chronic use</th>
</tr>
</thead>
</table>
| Tolerance & Physical Dependence | }
How do you treat acute opioid withdrawal?

A. Clonidine
B. Ondansetron
C. Methadone
D. Baclofen
E. Gabapentin
Managing Opioid Withdrawal in the Emergency Department With Buprenorphine

Andrew A. Herring, MD; Jeanmarie Perrone, MD; Lewis S. Nelson, MD*

*Corresponding Author. E-mail: lew.nelson@rutgers.edu, Twitter: @L.NelsonMD.
COW score

You should have at least 3 of the following feelings: • Twitching, tremors or shaking • Joint and bone aches • Bad chills or sweating • Anxious or irritable • Goose pimples

| Very restless, can’t sit still | Heavy yawning | Enlarged pupils | Runny nose, tears in eyes | Cramps, nausea, vomiting, or diarrhea |
Buprenorphine administration

Assess Withdrawal Severity
Objective signs and Clinical Opiate Withdrawal Scale (COWS)

Mild or less (COWS < 8)
No buprenorphine indicated
Re-assess patient and COWS in 1-2 hours

Moderate to severe (COWS ≥ 8)
Give buprenorphine 4-8 mg SL based on severity of withdrawal

Re-assess after 30-60 min
Is clinical withdrawal present?

Yes
Administer Additional Buprenorphine 8-24 mg SL
(Target 16 mg SL total for most patients)

No
Discharge planning
Providers should maximize the total dose administered.**
X-waivered. Prescribe 16mg SL buprenorphine/naloxone daily for 3-7 days, or until follow-up appointment if known.

Herring AH: https://doi.org/10.1016/j.annemergmed.2018.11.032
Warm Handoff

Overdose Patients Accessing Treatment

- Warm Handoff Hospitals
- Other Hospitals

Within 1 Day: 9.29% (Warm Handoff) vs. 4.88% (Other)
5 Days: 12.22% (Warm Handoff) vs. 6.87% (Other)
30 Days: 17.90% (Warm Handoff) vs. 11.39% (Other)

Independence commercial members between August 2017-March 2018

IBC Southeastern Pennsylvania
A 21 yo M and Mom

CC: “wants detox”

• h/o heroin use since age 19

• Two inpatient “rehab” 30 days and 180 days but no longer insured

• Had “suboxone” taper once for a few days and thought it made him feel better
Next steps?

BP 130/70 mmHg P 98/min RR 20/min T 99
c/o chills, nausea, body aches

Exam:
Appears restless and yawning
Pupils are slightly dilated
+rhinorrhea, ++lacrimation, no diaphoresis
No tremor + gooseflesh
Buprenorphine administration

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Disposition

• 4mg buprenorphine—feels a lot better

• Repeat 4mg buprenorphine in 30-60 min

Dispo planning

• Talk w SW or Warm handoff: next day follow up

• Discharge order set and naloxone Rx
Summary

• Buprenorphine is an evidence based tx that any physician APP can initiate in the ED or hospital to treat withdrawal and bridge to follow up.

• A COWS tool is helpful to gauge withdrawal severity COWS>8 == buprenorphine 4mg

• Rx naloxone and warm handoff
Resources

• Free X Waiver training: PCSS MAT https://pcssnow.org/

• NIDA: Initiating Buprenorphine Treatment in the Emergency Department http://www.drugabuse.gov/ed-buprenorphine

• Yale Emergency: ED-Initiated Buprenorphine<https://www.medicine.yale.edu/edbup>
Questions

• Should small ER’s with limited post discharge resources be initiated MAT?

• Is there an advantage to having x-waivered providers or is having the patient return to the ED for subsequent doses sufficient?

• What are the ramifications for inducting in the ED if there aren’t any available providers/appts to see the patient as outpatient?