ACCEPT

Addiction & Co-morbid Conditions: Enhancing Prevention & Therapeutics

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Session Date: Friday, March 15, 2024

Didactic Topic and Presenter:
Pain Management in the Setting of OUD + Buprenorphine Maintenance

Ana Pearson, MD (she/her)
Resident Physician, PGY-3
Dept. of Family Medicine and Community Health
University of Wisconsin—Madison

Content Experts: Sheila Weix and Joe Galey

- 12:15 PM: Attendance text-in – Introductions
- 12:25 PM: Case Presentation
  - Presenter: Laurie Logan, M.D - *Medical Director Scenic Bluffs Community Health Centers*
- 1 PM: Didactic Presentation and Discussion
  - Presenter: Ana Pearson, MD
- 1:15 PM End of Session

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Interprofessional Continuing Education Partnership
UNIVERSITY OF WISCONSIN-MADISON
School of Medicine and Public Health
School of Nursing
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ECHO ACCEPT
Addiction & Co-morbid Conditions: Enhancing Prevention & Therapeutics
2022-2024
Pain Management in the Setting of OUD + Buprenorphine Maintenance
3/15/24
Didactic Presenter: Ana Pearson, MD
Case Presenter: Laurie Logan, MD

Provided by the University of Wisconsin–Madison Interprofessional Continuing Education Partnership (ICEP)

Intended Audience:

Nurses, Nurse Practitioners, Pharmacists, Physicians, Physician Assistants, Pharmacy Technicians, Psychologists, Social Workers, Patient/Caregivers, Students

Objectives:

As a result of this educational regularly scheduled series, learners as members of the healthcare team will be able to:

- Discuss principles of perioperative management for patients on MOUD
- Discuss multi-modal management of acute pain for patients on MOUD
- Discuss management of opioid pain medications for patients on MOUD

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Name	Role	Financial Relationship Disclosures	Discussion of Unlabeled/Unapproved uses of drugs/devices in presentation?	COI completion date
Randall Brown	RSS Chair	Usona Institute (Grant / Contract), multi-disciplinary association for psychedelic studies (Grant / Contract)	Yes	1/29/2024
Nada Rashid	RSS Coordinator	No relevant financial relationships to disclose	No	2/5/2024
Kathleen Maher	RSS Coordinator	No relevant financial relationships to disclose	No	2/6/2024
Ritu Bhatnagar	Planner	No relevant financial relationships to disclose	Yes	2/8/2024
Paul Hutson	Planner	No relevant financial relationships to disclose	Yes	1/29/2024
Susan Mindock	Planner	No relevant financial relationships to disclose	No	1/29/2024
Sheila Weix	Planner	No relevant financial relationships to disclose	No	2/9/2024
Kellene Eagen	Planner	No relevant financial relationships to disclose	No	1/29/2024
Joseph Galey	Planner	No relevant financial relationships to disclose	No	2/13/2024
David Leinweber	Planner	No relevant financial relationships to disclose	Yes	1/20/2024
Ana Pearson	Presenter	No relevant financial relationships to disclose	Yes	3/5/2024

Laurie Logan	Presenter	No relevant financial relationships to disclose	No	3/14/2024

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Case Presentation

Laurie Logan M.D.

Medical Director

Scenic Bluffs Community Health Centers

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Case Introduction

- One-liner (including age/sex):

  45 year old male with history of opioid use disorder and lumbar disc disease with uncontrolled left sided radicular pain, on medication assisted treatment with buprenorphine/naloxone since May 2022.

- Primary question for discussion:Is there a way we can better control his pain without increasing his risk of relapse?

Medical & Behavioral Health Diagnosis:	Current Medications:
• Opioid Use Disorder • Anxiety • Lumbar radiculopathy • Lumbar surgery 12/2022 • Moderate persistent asthma • Tobacco Abuse • Right ankle arthritis with h/o arthroscopic debridement 4/2023 with 5 months persistent, debilitating ankle pain following surgery	• Buprenorphine/Naloxone 8/2, 3 films daily • Gabapentin, prescribed 600 mg 4 times daily; reports taking 1500 mg twice daily and 600 mg mid day. • Mirtazapine 60 mg at bedtime • Ibuprofen 800 mg three times daily • Acetaminophen 1000 mg three times daily • Advair 500/50, 1 puff twice daily • Albuterol, 2 puffs every 4 hours as needed

Substance Use

- History: Opioid use since age 14, initially given to him by mother, then prescribed, then obtained illicitly, eventually using heroin by 2016. Also used cocaine and ecstasy in past.
- Consequences of Substance Use:
  - Social/occupational/educational: Loss of driving privileges for most of life, lost parental rights to daughter age 18, incarceration
  - Physical (including evidence of tolerance/withdrawal):

  Multiple overdoses
- Past treatments:

1 year of AODA counseling to complete driver safety plan in early 2023. MAT with suboxone since May 2022.

Social History:	Family History:
• Social Factors/History: Currently single, but lives with an ex girlfriend and has 50% custody of 4 year old son. Working fulltime as a welder with multiple workers compensation injuries, including current back injury. • Education/Literacy: High School Graduate, worked consistently as welder. • Income source: Employment	• Both parents deceased. Mother with cancer for all of patients life and treated with opioids, which she shared with patient. Sister with whom has no contact.

Patient strengths & protective factors:	Risk factors:
• Success with sobriety for 2 years • Occupationally successful • Access to healthcare • Good relationships with most of healthcare and behavioral health team • Accesses complementary medicine	• Impulsive, including with decisions about medications • Episodes of aggression in past year • Frequent social crises with family

Labs

- Urine drug screens all consistent with suboxone use showing no other substances

Patient Goals & Motivations for Treatment

- Relief of pain
- Positive relationship with 4 year old son, including custody and placement
- Work stability
- Maintaining unrestricted drivers' license

Proposed Diagnoses

- Opioid use disorder
- Chronic Pain
- Lumbar radiculopathy
- Anxiety

Proposed Treatment Plan

- Upcoming back injections, patient not optimistic about success
- Continue suboxone, encouraged to use 8 mg three times daily, patient says “It does nothing.”
- Continue gabapentin
- What else?

Discussion:

- Primary question:
  - When is it appropriate to treat a patient with OUD with opioids?
  - What other options are there to treat his pain?

DSM-5 Substance Use Disorder ("Addiction")

- Tolerance
- Withdrawal

} **Physical Dependence ≠ Use Disorder**

- Larger amts/longer periods than intended
- Persistent desire/failed attempts to quit/control use
- Much time obtaining/using/recovering
- Important activities sacrificed
- Continued use despite known adverse effects
- Failure to fulfill major obligations
- Recurrent hazardous use
- Craving
- Ongoing use despite interpersonal problems

2-3 = mild
4-5 = moderate
≥ 6 = severe

Pain Management in the Setting of OUD and Buprenorphine Maintenance

Ana Pearson, MD

Addiction Medicine Fellow

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Overview

- Perioperative management of MOUD
- Optimizing Multi-modal acute pain management
- Management of opioid pain medications

Patient Case

- 45 yo male with h/o OUD has been on 24 mg SL bup-nx for 6 months. Presenting to PCP office for a pre-op evaluation prior to scheduled total knee arthroplasty.
  - How do you counsel this patient in regard to MOUD management?
  - What additional pre-operative care does this patient need?

Perioperative Management of MOUD

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Buprenorphine

- Partial opioid agonist
- Continue maintenance dosing up to procedure
  - Potentially destabilizing to taper or stop[1]
  - Difficult to restart post-op, can prolong hospitalization
- Post-op:
  - Generally continue full dose
    - Can consider reducing to 12-16 mg if issues with pain control
  - Can split dosing to q 4-8 hrs (improved analgesia)
  - Recommend higher affinity opioids if indicated (hydromorphone, fentanyl)

1. Lembke, A., Ottestad, E., & Schmiesing, C. (2019). Patients maintained on buprenorphine for opioid use disorder should continue buprenorphine through the perioperative period. In Pain Medicine (United States) (Vol. 20, Issue 3, pp. 425–428). Oxford University Press. https://doi.org/10.1093/pm/pny019

Methadone

- Full opioid agonist
- Confirm maintenance dosing
  - Hospital should also confirm with OTP dose and last admin
    - If > 5 days since last dose may need to reduce dose by 20-40%
- Continue maintenance dose pre and post-op
  - Analgesia effect lasts 8 hrs
    - Divide dose into TID or QID while in hospital
- No buprenorphine
- Discharge with printed MAR confirming time, date, dose of methadone administration

1. Gasper, J., Herring, A., Harrison, K., Lee, S., & Snyder, H. (n.d.). Guidelines are options for multimodal analgesic therapy. Use clinical judgement and avoid use if contraindicated. Acute Pain Management in Patients on Buprenorphine (Bup)* Treatment for Opioid Use Disorder Medical/Surgical Units UCSF Substance Use Warmline. www.cabridge.org

Naltrexone

- Opioid antagonist
- IM: hold 1 month prior to scheduled procedures
- PO: hold 3 days prior to scheduled procedures
- Emergent situations: anticipate needing very high doses of opioids to overwhelm receptors (while in effect)

Additional Management

- Discuss the plan clearly with patient
  - Provide written instructions
- Contact surgery and anesthesia teams
  - Provide written recommendations
- Positive reinforcement for MOUD
- Mentally separate chronic meds from acute pain management meds

Patient Case continued

- 45 yo male on 24 mg SL bup-nx, now post-op day 0 s/p TKA
  - How do you treat acute post-op pain?
  - Do you use additional opioids?
  - How do you counsel patient in preparation for discharge?

Acute Pain Management

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Multi-modal pain regimen

- Scheduled acetaminophen and NSAIDs (as able)
  - More effective in combination[1]
- Muscle relaxants
  - Cyclobenzaprine, tizanidine, methocarbamol
- Topicals
  - Lidocaine, diclofenac
- Non-pharm
  - Heat/ice
  - TENS

Hickey, T., Abelleira, A., Acampora, G., Becker, W. C., Falker, C. G., Nazario, M., & Weimer, M. B. (2022). Perioperative Buprenorphine Management: A Multidisciplinary Approach. Medical Clinics of North America, 106(1), 169–185. https://doi.org/10.1016/J.MCNA.2021.09.001

Neuropathic Agents

- Gabapentin/pregabalin
  - Reduces post-op pain and opioid use[1]
- SNRI or TCA

Gasper, J., Herring, A., Harrison, K., Lee, S., & Snyder, H. (n.d.). Guidelines are options for multimodal analgesic therapy. Use clinical judgement and avoid use if contraindicated. Acute Pain Management in Patients on Buprenorphine (Bup)* Treatment for Opioid Use Disorder Medical/Surgical Units UCSF Substance Use Warmline. www.cabridge.org

Consult Anesthesia

- Regional/neuraxial
  - Nerve blocks or peripheral nerve catheters
    - Joint surgeries
  - Epidural or spinal
    - Major abdominal or thoracic surgeries

Gasper, J., Herring, A., Harrison, K., Lee, S., & Snyder, H. (n.d.). Guidelines are options for multimodal analgesic therapy. Use clinical judgement and avoid use if contraindicated. Acute Pain Management in Patients on Buprenorphine (Bup)* Treatment for Opioid Use Disorder Medical/Surgical Units UCSF Substance Use Warmline. www.cabridge.org

Consult Anesthesia

- Infusions
  - Ketamine
    - Intra-op or post-op
    - 2-3 days infusion
    - Effects endure 2-3 days after infusion
  - Lidocaine
    - Intra or post-op
    - Shorter duration of effects (8-24 hrs)

Gasper, J., Herring, A., Harrison, K., Lee, S., & Snyder, H. (n.d.). Guidelines are options for multimodal analgesic therapy. Use clinical judgement and avoid use if contraindicated. Acute Pain Management in Patients on Buprenorphine (Bup)* Treatment for Opioid Use Disorder Medical/Surgical Units UCSF Substance Use Warmline. www.cabridge.org

Additional Intra-Op Tx

- Dexamethasone
  - (0.1 mg/kg) between induction and incision
- IV Magnesium

Gasper, J., Herring, A., Harrison, K., Lee, S., & Snyder, H. (n.d.). Guidelines are options for multimodal analgesic therapy. Use clinical judgement and avoid use if contraindicated. Acute Pain Management in Patients on Buprenorphine (Bup)* Treatment for Opioid Use Disorder Medical/Surgical Units UCSF Substance Use Warmline. www.cabridge.org

Patient Case continued

- 45 yo male on 24 mg SL bup-nx, now post-op day 1 s/p TKA.
  - Receiving scheduled acetaminophen and NSAIDs.
  - S/p peripheral nerve block on POD #0.
  - Pain is not fully controlled, especially with activity.
- How do you manage opioid pain medication?

Opioid Management

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Buprenorphine

- Can try increasing buprenorphine (esp if < 16 mg)
- Just as effective analgesic as full agonists[1]
  - Anti-hyperalgesia effects
- Kappa and delta opioid antagonism[2]
  - Decreases risk for constipation, dysphoria

1. Kohan, L., Potru, S., Barreveld, A. M., Sprintz, M., Lane, O., Aryal, A., Emerick, T., Dopp, A., Chhay, S., & Viscusi, E. (2021). Buprenorphine management in the perioperative period: educational review and recommendations from a multisociety expert panel. Reg Anesth Pain Med, 46, 840–859. https://doi.org/10.1136/rapm-2021-103007

2. Hickey, T., Abelleira, A., Acampora, G., Becker, W. C., Falker, C. G., Nazario, M., & Weimer, M. B. (2022). Perioperative Buprenorphine Management: A Multidisciplinary Approach. Medical Clinics of North America, 106(1), 169–185. https://doi.org/10.1016/J.MCNA.2021.09.001

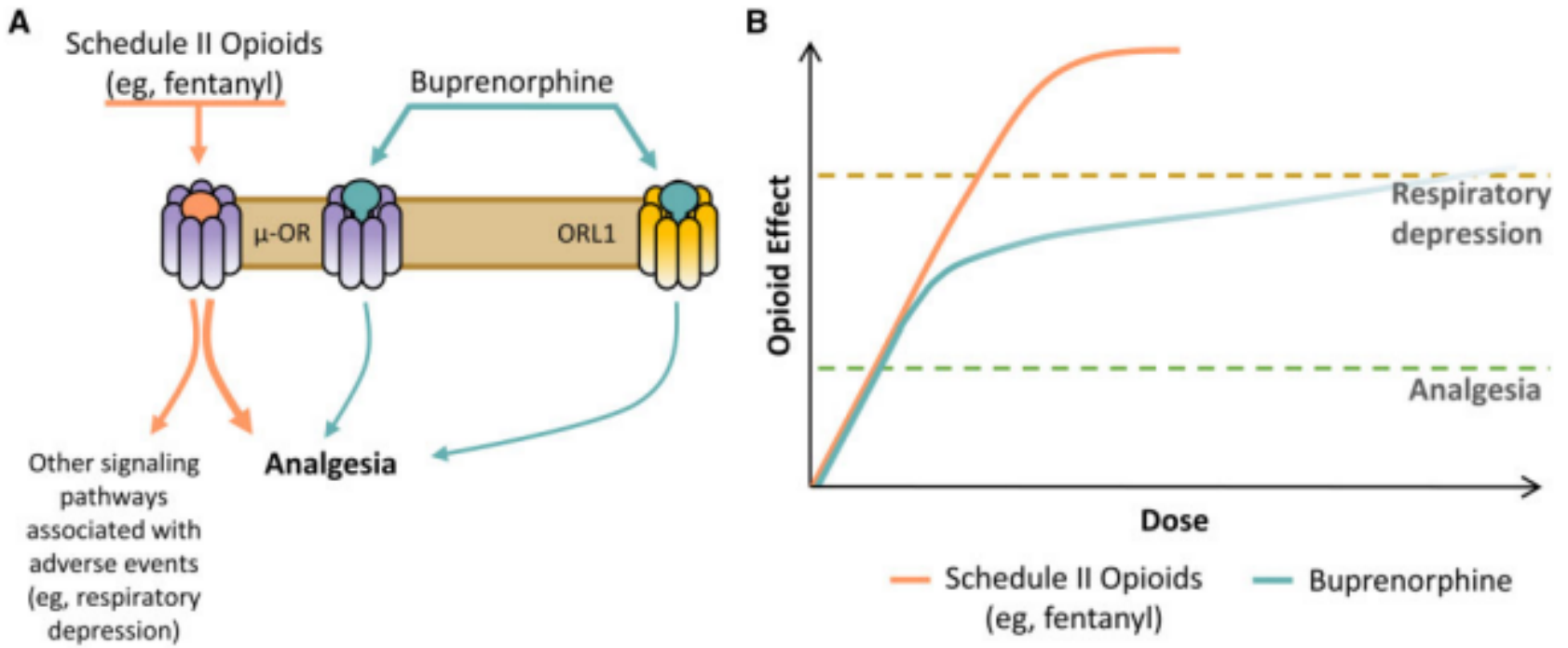

Figure 3. Efficacy and tolerability of buprenorphine compared with those of other opioids used for chronic pain. (A) Potential mechanism of action for buprenorphine and (B) conceptual representation of possible effects compared with those of Schedule II opioids such as, but not limited to, fentanyl [33,38,39]. OR=opioid receptor; ORL1=opioid receptor-like 1.

Webster, L., Gudin, J., Raffa, R. B., Kuchera, J., Rauck, R., Fudin, J., ... & Mallick-Searle, T. (2020). Understanding buprenorphine for use in chronic pain: expert opinion. Pain Medicine, 21(4), 714-723.

Full Opioid Agonists

- Use fentanyl or hydromorphone
  - Higher receptor affinity, can compete with buprenorphine
- Anticipate requiring at least 2-5 times typical doses
  - Both to compete with MOUD and due to opioid tolerance
- Consider scheduling doses or PCA for severe pain
  - Reduce stigma or appearance of “drug seeking”

Patient Case continued

- 45 yo male on 24 mg SL bup-nx, now post-op day 2 s/p TKA.
  - Pain adequately controlled with scheduled acetaminophen and NSAIDs, topical lidocaine, oxycodone 15 mg q6h prn.
- He discharges to home with 5 day supply of oxycodone and naloxone.
  - Surgery team provides clinic number for refills if needed.

Another Patient Case

- 30 yo woman with OUD on SL buprenorphine 24 mg admitted after MVC, POD #1 s/p ORIF for ankle fracture
- You are consulted for medical management and restarting buprenorphine
  - Currently receiving NSAIDs, acetaminophen, oxycodone 10 mg q4h prn
  - She notes mild opioid withdrawal sx, uncontrolled pain
  - Actually has not been taking bup for past few weeks due to return to fentanyl use

Full Opioid Agonists

- Appropriate to stabilize on full opioid agonists first
- If patient interested in MOUD:
  - Can cross titrate with methadone
  - Low-dose buprenorphine induction
    - Work backwards from discharge timeline
- If patient not interested in MOUD:
  - Appropriate to use full agonists during admission for both pain and withdrawal

Full Opioid Agonists

- Example 7 day regimen:
  - Day 1: 1 mg once (half 2 mg film)
  - Day 2: 1 mg BID (2 mg total)
  - Day 3: 2 mg BID (4 mg total)
  - Day 4: 4 mg BID (8 mg total)
  - Day 5: 4 mg TID (12 mg total)
  - Day 6: 8 mg BID (16 mg total)
  - Day 7: 8 mg TID (24 mg total)
- Resources:
  - Curbsiders Addiction Medicine
  - California Bridge to Treatment

Another Patient Case

- 30 yo woman with OUD on SL buprenorphine 24 mg admitted after MVC, POD #1 s/p ORIF for ankle fracture
  - Pt opts for low-dose induction of buprenorphine
  - Discharges with rx to bridge to follow up with PCP
  - Discharges with rx for naloxone
  - Pain managed without additional opioids at discharge

Conclusions

- Communicate with surgery and anesthesia teams to plan/coordinate care prior to scheduled procedures
  - Continue MOUD
- Optimize opioid-sparing analgesia
- Opioid medications are appropriate in setting of OUD per usual cares
  - Anticipate 2-5x typical doses
  - Prioritize hydromorphone
  - Consider reducing buprenorphine post-op if needed