Pain

Laura G. Kehoe, MD, MPH
Medical Director, MGH Substance Use Disorder Bridge Clinic
Assistant Professor of Medicine
Harvard Medical School
Objectives

- Overlap of Chronic Pain and Opioid Use Disorder
- Guidelines
- Cases
- Treatment Options
- Resources
Chronic Pain

- 100 million people suffer in the US
  - 1/3 of the US population
  - Primary reason for disability
  - 50% of primary care visits

Opioid prescribing rates are highest among
- pain medicine (49%)
- surgery (37%)
- physical medicine/rehabilitation (36%)

But, primary care providers commonly treat
- account for ~50% of opioids dispensed
- report concern about opioids and insufficient training

ASAM Facts and Figures, 2016
CDC, 2016
52% of treatment seeking opioid-dependent veterans complained of moderate to severe chronic pain.

37%-61% of patients taking methadone for opioid use disorder have chronic pain.

Pain plays a substantial role in initiating and continuing illicit opioid use.

Pain and Addiction Overlap

Overdose Deaths Involving Opioids, by Type of Opioid, United States, 2000-2016

- Any Opioid
- Other Synthetic Opioids (e.g., fentanyl, tramadol)
- Heroin
- Natural & Semi-Synthetic Opioids (e.g., oxycodone, hydrocodone)
- Methadone

Pain as the 5th Vital Sign

“Through good intentions and bad medicine, the medical community helped create a deadly epidemic. Now, in an act of startling injustice, we are abandoning its victims”

Jessica Gregg, MD, PhD, Ann Intern Med. 2015; 162:651-652.
Chronic pain – common – multidimensional – Individualized – treatment can be challenging for healthcare providers as well as patients

• Voluntary recommendations
• Not mandated
• Based on emerging evidence
• Goal to improve patient safety and care
The 12 recommendations are grouped into three conceptual areas:

1. Determining when to initiate or continue opioids for chronic pain
2. Opioid selection, dosage, duration, follow-up, and discontinuation
3. Assessing risk and addressing harms of opioid use
Alternative therapies

- Counseling (CBT, Motivational Interviewing)
- Acupuncture
- Yoga
- Meditation
- Massage
- Exercise
- Music, art, and pet therapy
“...We have to do all these things without allowing the pain-control pendulum to swing to the other extreme, where patients for whom opioids are necessary and appropriate cannot obtain them. “

- Vivek Murphy, MD, US Surgeon General, 2017

31 yoF Rx with oxycodone/acetaminophen for the past 18 months for severe low back pain with radiculopathy, asking for earlier refills for worsening back pain, inappropriate/rude to staff when told Rx not due, several ER visits for nausea, vomiting, diarrhea and requests for more pain medication.

1) You should:

A) Ignore this, she’s usually very polite and must have been feeling lousy with a viral syndrome
B) D/C all opioids as clearly she is is addicted
C) Ask her to come in immediately for a medical follow up and assessment as for opioid use disorder
D) Discharge her from your clinic
She admits to escalating her dose to help both pain and worsening anxiety. You have forced her to buy oxycodone on the street to prevent withdrawal, and she concedes to chewing them with the hopes they will be more effective. She has doubled her dose but still in agony. She has missed so much work that she may lose her job. She would like something to alleviate her pain and stop the withdrawal.

2) You (pick all that apply):
   A) Refer her to a detox and plan never to prescribe controlled substances to her
   B) Diagnose her with opioid use disorder and offer to transition her from oral oxycodone to SL buprenorphine/naloxone both for her pain and opioid use disorder
   C) Consider adjunctive therapies for her pain
   D) Discuss the importance of behavioral support (chronic pain and opioid use disorder)
All Are Not All Created Equal

Pain

Dependence

Addiction/Opioid Use Disorder

Pseudo-addiction
Red Flags

- Nonjudgmental
- Open Ended
- State your concerns
- "Roll with resistance"
- Empathy
- Reassure

Consider DDx:
- worsening of disease?
- opioid resistant pain?
- opioid induced hyperalgesia?
- Pseudoaddiction
- Self medicating psychiatric or physical symptoms
- Diversion
Chronic Pain and Addiction Management with Buprenorphine Maintenance

• Mechanism of Action?
  – Reversal of opioid induced hyperalgesia or tolerance from high dose opioids?
  – Does treatment of OUD lead to better pain relief?

• Sublingual formulation approved for addiction **not** pain treatment
  – Can be used off-label

• Parenteral and transdermal formulations approved for pain **not** addiction treatment
  – **CAN NOT** be used off-label under Drug Addiction Treatment Act of 2000
Knowledge Check

Maintenance opioid agonists prescribed for opioid use disorder will confer some analgesic effect if acute pain occurs, but patients may need added prn opioids or non-opioid management.

A) True
B) False
Opiophobia- Myths and Misconceptions

1) If a patient is on methadone or buprenorphine maintenance, that should provide analgesia

2) If I prescribe opioids to a patient on maintenance opioids, he/she will surely relapse or worsen their addiction

3) If I prescribe opioids for such patient for acute pain, I will cause respiratory depression and overdose him/her

4) If her/she is complaining of pain, he/she is drug seeking
“He left AMA...”

- 36 yom with severe OUD, IV heroin
- 20 mg/day Buprenorphine/Naloxone maintenance
- Admitted to hospital s/p MVA with cervical spine fracture, multiple visceral contusions and knee laceration, left AMA after being found somnolent after friend visited
- RN found drug paraphernalia in his bathroom and called security
- Was receiving oxycodone 5 mg po q 4-6 prn, awaiting input from buprenorphine prescriber to confirm dose in AM

Common? Predictable? Preventable?
Maintenance ≠ Analgesia

• Patients who are physically dependent on opioids (i.e. methadone or buprenorphine)
  – must be maintained on daily equivalence before ANY analgesic effect is realized with opioids used to treat acute pain

• Opioid analgesic requirements
  – are often higher due to increased pain sensitivity and opioid cross tolerance

Peng PW, Tumber PS, Gourlay D: Can J Anaesthesia 2005
Decreased Pain Threshold

• In experimental pain studies...
  – Patients with active opioid use disorder have less pain tolerance than peers in remission or matched controls
  – Patients with a h/o opioid use disorder have less pain tolerance than siblings without an addiction history
  – Patients on opioid maintenance treatment (i.e. methadone, buprenorphine) have less pain tolerance than matched controls

• Methadone-maintained women had increased pain and required up to 70% more oxycodone equivalents after cesarean delivery

Alford D, PCSS. Managing Acute & Chronic Pain with Opioid Analgesics in Patients on Medication Assisted Treatment, December 2015.
Under-treated Pain and Addiction...

- Increases patient anxiety and mistrust of medical community

- Increases "aberrant behavior"

- Increases risk of relapse or ongoing harmful drug use and its consequences
  - Infections, overdose, leaving AMA

- Does not prevent or treat addiction
Communication

- Reassure your patient about treatment
- Verify dose
- Notify facility/provider of admission
- Continue usual dose of opioid agonist
- Treat pain appropriately
  - often higher analgesic doses
  - at shorter intervals
- Write continuous scheduled doses rather than "prn"
- Reassess
- Communicate with team about DC plan
Options:
1. Divide buprenorphine to every 6-8 hours
2. Use supplemental doses of buprenorphine
3. Continue buprenorphine and titrate short-acting opioid analgesic
4. D/C buprenorphine, use opioid analgesic, then re-induce

Alford DP. Handbook of Office-Based Buprenorphine Treatment of Opioid Dependence. 2010
Opioid Agonists with Buprenorphine?

Theoretical concern:

• Buprenorphine (a partial mu agonist) may
  • antagonize the effects of previously administered opioids or
  • block the effects of subsequent administered opioids

• However...experimental mouse and rat pain models
  • Combination of buprenorphine and full opioid agonists (morphine, oxycodone, hydromorphone, fentanyl) resulted in additive or synergistic effects
  • Receptor occupancy by buprenorphine does not appear to cause impairment of mu-opioid receptor accessibility

Slide courtesy Dan Alford, MD
Englberger W et al. European J of Pharm. 2006
What About Surgery?

Discontinuing buprenorphine/naloxone in anticipation of surgery...

- Risks relapse by stopping buprenorphine during high anxiety preoperative period

- Based on a theoretical concern of pharmacological principles
Comparison of Post-Cesarean Section Opioid Analgesic Requirements in Women With Opioid Use Disorder Treated With Methadone or Buprenorphine

Results:

- 9 yr Retrospective cohort, post c-section pain for pts with OUD on MTD or bupe
- 185 methadone (mean dose 93.7 mg, SD 2.6) and
- 88 buprenorphine (mean dose 16.1 mg, SD 7.8)
- Buprenorphine did not interfere more than methadone with pain management post C-section
- No significant differences in opioid analgesic requirements, post-op complications or LOS

• Retrospective cohort of 1st 24 hours after surgery in 11 BM and 22 MM patients on patient controlled analgesia (PCA)
  — No significant differences in pain scores, incidence of

Authors conclude...

“results confirm that continuation of buprenorphine perioperatively is appropriate”

Slide courtesy of Dan Alford, MD
Macintyre PE et al. Anaesth Intensive Care 2013
EDITORIAL

Patients Maintained on Buprenorphine for Opioid Use Disorder Should Continue Buprenorphine Through the Perioperative Period

In response to rising rates of opioid overdose and addiction, growing numbers of patients with opioid use disorder are being transitioned from Schedule II prescriptions and illicit opioids to buprenorphine or buprenorphine/naloxone. From 2010 to 2016, annual prescriptions for buprenorphine products more than doubled, while other categories of opioid prescriptions remained level or decreased. Physicians are faced with the clinical dilemma of what to do when patients on buprenorphine need surgery.

In the absence of convincing evidence that continued buprenorphine leads to poorer outcomes, and in light of the risks associated with discontinuing buprenorphine, we recommend that patients with opioid use disorder on buprenorphine therapy continue the medication throughout the peri-operative period, as well as in situations requiring urgent/emergent analgesia. For patients on higher doses of buprenorphine (more than 12 mg daily) scheduled to undergo painful procedures such as total joint replacement or open chest surgery, we have developed a protocol to lower the dose but still maintain buprenorphine through the peri-operative period (Figure 1).

Buprenorphine is a Schedule III opioid that is Food and Drug Administration (FDA) approved for the treatment of opioid use disorder and pain (in some formulations). Because of its unique pharmacologic properties, it poses lower risks of misuse, respiratory suppression, and accidental overdose. Buprenorphine is also a partial agonist: due to tight binding at the mu opioid receptor and attenuated intrinsic activity, buprenorphine blocks some effects of other opioids a patient may take or be prescribed. Therefore, whether to continue buprenorphine when using other opioids to manage acute or peri-operative pain has become an issue of controversy and public health significance.

Published guidelines and opinions in the United States recommend discontinuing buprenorphine well in advance of anticipated pain or major surgery [1,2]. The US Center for Substance Abuse Treatment (CSAT) in its 2004 Treatment Improvement Protocol (TIP) stated, “While patients are taking opioid pain medications, the administration of buprenorphine generally should be discontinued” [2]. The 2004 CSAT guidelines have had an outsized influence on medical practice, and the discontinuation of buprenorphine prior to surgery has become the de facto standard of care. These recommendations derive from published cases of difficult-to-treat acute pain in buprenorphine-maintained patients, but these case reports are not universally persuasive. They may primarily reflect the challenge of managing already opioid-tolerant and -dependent patients in need of analgesia, as opposed to difficulties related to buprenorphine per se.

Furthermore, clinical pain research dating even as far back as 1990 shows buprenorphine in combination with other opioids effectively treating peri-operative or other acute pain [3-6]. In 2013, a group of Australian clinicians at the Royal Adelaide Hospital published a comparison between 22 buprenorphine and 29 methadone-maintained patients undergoing elective major surgery and found that the buprenorphine patients required less intravenous breakthrough pain medication in the first 24 hours postoperatively. They concluded, “These results confirm that combination of buprenorphine peri-operatively is appropriate” [4]. A study in 2017 compared post-caesarean section opioid analgesic pain requirements in women with opioid use disorder treated with methadone or buprenorphine. The study found no differences between groups in length of hospital stay, postoperative complications, or need for opioid analgesia [5].

Beyond the data, we believe discontinuing buprenorphine prior to surgery in patients with opioid use disorder introduces unnecessary risk for four reasons:

1. Discontinuing buprenorphine introduces management complexity by delaying surgery to allow adequate time to taper, requiring more clinic visits and care coordination between multiple providers (primary prescriber, surgeon, and anesthesiologist), and burdening patients with additional preparative instructions and tasks.

2. Re-induction of buprenorphine after surgery is likely to be physically painful and medically destabilizing for patients because it forces them to endure a
MGH Perioperative Buprenorphine Management: Mild Pain Expected*

• If buprenorphine dose $\leq 8$ mg/day:
  continue dose throughout perioperative period

• If buprenorphine dose $>8$ mg/day:
  continue dose throughout perioperative period

*procedures where historically less than 5 day courses of low dose oxycodone or hydrocodone are prescribed
Before Surgery:

- If bupe <16 mg/day, continue Rx
- If bupe >16 mg/day, plan to have tapered down to 16 mg/day by day prior to surgery, (preferably 8mg BID dosing)

Day of Surgery and throughout hospitalization:

- Continue 8 mg/day, (preferably 4 mg BID dosing)
- Rx other opioids prn *

Preparing for Discharge:

- Provide opioid agonist taper plan and transition back to baseline buprenorphine

* Expect similar opioid agonist dose requirements similar to patients on methadone maintenance
Patient 2

60 yr old man with severe opioid use disorder in sustained remission on buprenorphine/naloxone 8/2 mg SL BID, pending multiple tooth extractions in preparation for implants. DMD offered him oxycodone for post-op pain, but patient nervous about this plan and declined.

You (select all that apply):
A) Ibuprofen 800 mg TID in addition to usual buprenorphine/naloxone dose

B) Continue current buprenorphine/naloxone and add additional 2-4 mg for 2-3 days post procedure with close interval follow up

C) DC buprenorphine/naloxone 3 days prior to surgery, start oral oxycodone q 4-6 hr on day of surgery and for 2 days post op, then re-induce on buprenorphine/naloxone

D) Advise decrease current dose of buprenorphine/naloxone to 8 mg/day in split dose and give post op oxycodone in addition to the buprenorphine/naloxone
Patient 3

45 yom well known to you, with severe OUD (IV heroin) in sustained remission on buprenorphine/naloxone 8/2 mg SL BID, congenital lower extremity neurovascular abnormalities with chronic pain. Also Rx Gabapentin, Duloxetine, regular physical therapy, and multiple other non-pharmacologic therapies, and well engaged in CBT with an addiction therapist and recovery coach. Complains of ongoing pain, inability to sleep and so severe that he fears relapse to heroin.

You: (select all that apply)

A) DC buprenorphine/naloxone and start him on short acting oxycodone round the clock and massage therapy

B) DC buprenorphine/naloxone and refer him to a methadone maintenance treatment program

C) Add an additional 4/1 mg buprenorphine/naloxone at bedtime and titrate up another 4 mg if needed in 48 hr to 8/2 mg TID

D) Refer him to an inpatient addiction treatment program
Naloxone Co-Prescribing

“Clinicians should consider offering naloxone when factors that increase risk for opioid overdose”

– history of overdose
– history of SUD
– higher opioid dosages
– concurrent benzodiazepine use
Opioid Prescribing On-Line Courses
MAT TRAINING
PROVIDERS’ CLINICAL SUPPORT SYSTEM
For Medication Assisted Treatment

Take the MAT waiver course at a time that’s right for you.

Pajamas Optional

The American Osteopathic Academy of Addiction Medicine holds two online MAT waiver trainings per month. On weekends or during the week, at different times. Designed for you whether you live on the West or East Coast.

Go to pcsmat.org and see which sessions best suit your needs.

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Tools and Materials

- **Provider and patient materials**
  - Checklist for prescribing opioids for chronic pain
  - Fact sheets
  - Posters
  - Web banners and badges
  - Social media web buttons and infographics

- **CDC Guideline for Prescribing Opioids for Chronic Pain** can be incorporated and applied in a primary care practice setting

- **CDC Opioid Overdose Website**