Principles of Acute Hospital-Based Pain Management in Individuals on Chronic Opioids

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March 25, 2020
Goals

1. Define the patient population
2. Challenges faced in this group
3. Evaluation and identification of risks
4. Treatment for those receiving chronic opioids for pain
5. Treatment for those with opioid use disorder (OUD) on medication-assisted treatment (MAT)
6. Approaches for avoiding opioid-related adverse drug events (ORADEs)
Acute Pain Happens

• Patients on chronic opioid therapy for pain
• Chronic opioid maintenance therapy for addiction MAT
• Chronically using inappropriately prescribed or illegally obtained opioids.
  – 10 million Americans on chronic opioids/pain
  – 500 thousand Americans on Methadone/MAT
  – Buprenorphine—1 million plus

Sources:
Defining Our Groups

• Prescription of chronic opioid therapy
  – > 90 days

• Past studies have estimated approximately three percent of patients in the primary care setting were receiving chronic opioid therapy for pain*

FDA Definition of Opioid Tolerant

• > 1 week person has been receiving oral morphine 60 mg/day
• Transdermal fentanyl 25 mcg/hour
• Oral oxycodone 30 mg/day
• Oral hydromorphone 8 mg/day
• Oral oxymorphone 25 mg/day
• Or an equianalgesic dose of any other opioid

Goals of Care

- Prevent withdrawal
- Provide adequate analgesia
- Avoid triggering a relapse or worsening of the addiction disorder
  - Those with substance use disorders (SUDs)
Challenges For Those On Chronic Opioids

- Central sensitization
- Tolerance
- Opioid induced hyperalgesia
Clinician Barriers

- Poor understanding of the reality of acute pain
- Poor understanding of opioid equivalent doses
- Stigmatization of all opioid-tolerant individuals
- Fear
- Undiagnosed SUD
System Barriers

- Financial concerns
  - Lack of healthcare insurance coverage
- Limited number of specialists in pain management, palliative care, and addiction
- Poor incentive structure
- Restrictions on whether and how opioids can be prescribed (REMS)

REMS = Risk Evaluation and Mitigation Strategy
REMS

• FDA’s primary tool
  — “To reduce serious adverse outcomes resulting from inappropriate prescribing, misuse, and abuse.”
• Opioid manufacturers pay for voluntary safety training for physicians on extended release (ER)/long-acting (LA) formulations.
• Cannot prove program was ever effective.

Evaluation of Acute Pain In Those With Chronic Pain

• Exacerbation of baseline pain or new pain?
• Differential diagnosis
• Unrelated to chronic pain issues?
• Psychological factors

*Etiology of the pain will guide the choice of treatments.
Preoperative Evaluation and Populations At-Risk

• “Is my patient an opioid user or abuser?”

<table>
<thead>
<tr>
<th>*Use of opioids</th>
<th>Opioid Use</th>
<th>Misuse</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appropriate Declared</td>
<td>Out of control</td>
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<td></td>
<td></td>
<td>Often deliberately omitted</td>
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<tr>
<td>*Quality of life</td>
<td></td>
<td>Improved by opioids</td>
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<tr>
<td></td>
<td></td>
<td>Impaired by opioids</td>
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<tr>
<td>*Awareness of opioid-related side effects</td>
<td>Complete</td>
<td>Unconcerned</td>
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<tr>
<td>*Diagnosis</td>
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<td>Available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unavailable</td>
</tr>
<tr>
<td>*Treatment plan and medical prescription</td>
<td>Followed</td>
<td>Unavailable</td>
</tr>
<tr>
<td>*Opioid medication</td>
<td></td>
<td>Available</td>
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<tr>
<td></td>
<td></td>
<td>Hidden, illicit</td>
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Can We Identify Those At-Risk?

• Patients may deliberately omit to declare the use of opioids. (Surprise!)

• Tools for use prior to opioid treatment
  – Opioid risk tool
  – Drug abuse screening test

• Nicotine addiction, alcohol dependence, and psychiatric history are significantly considered the most relevant risk factors.

• No “gold standard”

Signs and Symptoms of Opioid Abuse

- Pruritus
- Twitching
- Miosis
- Loss of appetite
- Drowsiness
- Needle marks
- Bowel dysfunction
Assessing Misuse After Opioids Are Initiated

• Provider reported
  – Prescription drug use questionnaire (PDUP)

• Self report
  – Current opioid misuse measure (COMM)
  – Pain medication questionnaire (PMQ)
  – Prescription drug use questionnaire, patient (PDUQp)
The Effective Easy-To-Use Hospital Screening Tool
Risk Factors for Opioid Misuse

1. Family or personal history of substance abuse
2. Younger age
3. Criminal activity and/or legal problems
4. Violence
5. Smoking
6. History depression or anxiety
7. Psychosocial stressors (Unemployment)
8. Unmarried
Other Risks
Goals

- Effective pain management
- Safety
- “Universal Precautions”
- Know patient expectations
- Do not assume additional opioids are always required
- Assess risk of misuse post-discharge
Collaboration Is Key
Questions To Be Answered

• Is there a treatment contract in place?
• Patient status over recent past?
• Compliance?
• Results and frequency of urine toxicology tests?
• Who will be responsible for managing acute pain after discharge?
• What is the treatment plan?
• Family and social support?
The Importance of Urine Drug Screening

• Studies repeatedly demonstrate high rates of abnormal results in patients prescribed chronic opioids.

1. 122 patients who were prescribed opioids for non-cancer pain and found abnormal results in 43 percent of this sample.

2. 21 percent of the study patients with no obvious behavioral issues to have either a positive urine screen result for an illicit drug or a non-prescribed controlled medication.

Sources:
Mental Health Screening

• Screen for mood and anxiety symptoms
• History of psychiatric treatment
• Patient Health Questionnaire-9 (PHQ-9)?
  – “Over the last 2 weeks, how often have you been bothered by any of the following problems?”
• Examples
  – Little interest or pleasure in doing things
  – Feeling down, depressed, or hopeless
• Scoring
  – Not at all (0)*
  – Several days (1)*
  – More than half the days (2)*
  – Nearly every day (3)*
Patient Expectations?
Plan Perioperative Pain Medication

- Investigate effective management strategies used in previous procedures.
- Consider acetaminophen, non-steroidal anti-inflammatory drugs (NSAIDs) or selective COX-2 inhibitors as preoperative medication.
- Discuss with the patient the analgesic strategy
  - Multimodal approach
  - Regional techniques when suitable
  - Patient-controlled analgesia (PCA)
- Document treatment plan with a written opioid pain care agreement with the patient
Do Not Make This Mistake

• It is not an either/or proposition.

• Explain opioid sparing effects of non-opioid medications and anesthesia.
Avoid Risks of Opioid Withdrawal
If Opioids Are Used

• “Patients on chronic opioids are at risk of receiving inadequate analgesia because of clinicians’ misconceptions about opioids or prejudice toward patients addicted to opioids.”

Available at: https://www.ncbi.nlm.nih.gov/pubmed/16418412
Basic Principles

1. Determine the amount of opioids used daily prior to the onset of the new pain.
2. Prescribe adequate doses of opioids to treat this baseline pain (maintenance opioids).
3. Add short-acting opioids to cover acute pain.

• Avoid increasing dose of chronic long acting opioids to manage acute pain**
Choice of Opioid Route and Regimen

• Prior long-acting oral or transdermal opioid should be continued if possible.

• Nothing through the mouth? (NPO?)—oral morphine milligram equivalent (MME) converted into a parenterally dosed opioid and administered either as a continuous infusion or using intermittent scheduled IV doses.

• Use same opioid for acute pain management as the patient currently takes for chronic pain when possible (not in LA formulation).
PCA

- Good choice for acute pain in patients who are alert and who have the capacity to press a button to deliver analgesia.
- Studies in post-operative pain suggest PCAs are effective for acute pain and patient satisfaction is high.

Intermittent Opioid Administration

1. Assess the previous baseline daily opioid use
2. Administer 10–20 percent as a bolus
3. Assess response in 15–60 minutes (Intravenous /Oral [IV/PO])?
4. If pain > 7 increase the bolus dose by 50 percent
5. Increase dose 50 percent over the prior dose every hour if ineffective as tolerated
6. Convert total over 24 hours to 4 times a day (QID) dosing or 10–20 percent dose q 3–4 hours prn plus daily chronic opioids
Case Study Example

• 56 year old cancer patient
  – Taking 240 mg of long-acting morphine daily, with 15 mg of short-acting morphine 4 times daily, for baseline pain.
  – Admitted for a new bone metastasis, and her pain level is 10 on a scale of 1 to 10.
  – Continued on the 240 mg of long-acting morphine orally.

• What is the appropriate PO/IV MS dose to start?
Case Study Part Two

• Answer: 10–20 percent of the total daily dose or 30–60 mg of oral morphine

• IV dose of Morphine would be 10mg–20mg

• If initial dose (10mg IV) is not effective subsequent dose is increased 50 percent (15mg IV)
Risks of Opioid Titration

• Most opioid-tolerant patients will be able to handle increases in opioid dose
• Caution with patients who are more vulnerable to respiratory depression
  – Elderly
  – Chronic obstructive pulmonary disease (COPD)
  – Obstructive sleep apnea
  – Hepatic/Renal failure
Oral Versus IV Opioids

• American Pain Society Guidelines on Post Operative Pain Management
  – “Panel recommends oral over IV administration for those who can take oral medications as most literature does not support the superiority of IV administered analgesia.”
  – “Oral administration is preferred.”

Bolus Dosing Taper and Basal Dosing

- Resolution pattern of acute pain?
- Surgery
- Trauma/Bone fracture
- Other slow to resolve etiology

- Some pain may resolve quickly allowing return to baseline opioid dosing but others are not and require titration to new baseline with LA formulations.
Opioid Sparring Strategies

- Nonsteroidal anti-inflammatory drugs
- Glucocorticoids
- Gabapentin
- Antidepressants—Not acute pain
- Low-dose Ketamine
- Nonpharmacologic and complementary therapies

Those on MAT for OUD

- Often more uncontrolled pain.
- High opioid doses due to tolerance.
Methadone

- Given once daily for MAT doses 50–120mg
- QID dosing for pain
- Analgesia limited in doses > 60mg
- No high-quality evidence to guide management of acute pain.
- “Patients with acute pain should be treated for pain with opioid or non-opioid medications as would be appropriate if they were not on methadone.”

Methadone (cont.)

• Confirm dose and maintain.
• IV dose is 50 percent oral dose given on TID/QID basis.
• Add short acting opioid considering tolerance.
• Avoid PRN* dosing!
• Consider if increase of Methadone is needed but best to avoid use for pain control.

*PRN = “pro re nata” meaning “As the thing is needed.”
Buprenorphine

- Binds to mu-opioid receptors tightly but with low intrinsic activity.
- May reduce the effectiveness of other opioids.
- Managed in consultation with the patient’s addiction provider.
- Managing acute pain in patients receiving buprenorphine therapy are based on expert opinion and local/state practice.
Buprenorphine (cont.)

• Mild to moderate acute pain
  – NSAIDS/Increase Buprenorphine dose
• Dose Buprenorphine 2–4mg q 3–4 hours
• Add a short-acting opioid agonist
  – 10–15 mg of oxycodone orally
• Severe pain
  – Stop Buprenorphine and convert to high potency opioid oral Hydromorphone
    • Example: 8mg TID starting dose for those on 16mg of Buprenorphine
Basic Principles for MAT Patients

- No PRN doses.
- Account for tolerance.
- Avoid IV medications if possible in those that have history of IV dependence.
- Avoid discharge to home on opioids if possible.
- Do not expect patients on MAT or with history of OUD to self-manage opioids.
- Family involvement is a must.
Naltrexone

- A single oral dose of naltrexone will block the activity of opioid agonists for 24–72 hours.
- LA intramuscular (IM) form opioid antagonist provides 30-days blockade.
- Non-opioid analgesia and nonpharmacologic strategies should be maximized.
- High doses of an opioid analgesic can overcome the naltrexone blockade of opioid receptors?
Untreated OUD

• Two million individuals in the United States met criteria for dependence on or abuse of opioid analgesics.

• Reluctant to admit the extent of their non-medical use of opioids.

• Accurate baseline assessment of quantity of opioid use difficult to obtain.

• The setting of acute pain is not the time to attempt detoxification!

Untreated OUD (cont.)

- View as problem that adds to patient suffering.
- Deserving of the best and safest pain relief.
- Discuss the risk of addiction and overdose.
Untreated OUD (cont.)

• Refer the patient to substance abuse treatment/consultation.
• Same principles as MAT
• Prioritize the use of adjuvant medications and nonpharmacologic therapy.
• High-risk of against medical advice (AMA)
Thank you!

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