



BEST PRACTICES

ACUTE PAIN AND SYMPTOM MANAGEMENT FOR HOSPITALIZED PATIENTS WITH OPIOID-USE DISORDER

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Case Presentation

A 48-year-old woman with a history of intravenous heroin use presents with fevers and worsening lower back pain for two weeks. She has had chronic neck pain for seven years stemming from a motor vehicle accident. Her chronic pain was managed with opioid pain medication for five years through a pain management clinic. Two years ago, she lost her insurance and turned to intravenous heroin. She usually uses five “bags” per day but increased to seven “bags” per day for the last two weeks because of increasing pain.

On examination, she is extremely uncomfortable but neurologically intact. A spine MRI reveals osteomyelitis of the L4 vertebra. Blood cultures are positive with 2/2 bottles growing gram positive cocci. She was initiated on morphine 2 mg IV q4h prn severe pain which she reports is not relieving her pain.

Management of Acute Pain

The opioid epidemic continues to expand in the United States, with increasing numbers of deaths related to opioid use. While the number of prescriptions for opioid pain medication has decreased since 2012, opioid overdose deaths due to heroin and synthetic opioids have continued to increase, as have hospital admissions due to opioid-use related complications.¹ Opioid-dependent patients admitted to the hospital with acute pain have complex pharmacologic needs and require a systematic approach to analgesia. Managing their acute pain is often complicated because of their opioid dependence. Long-term opioid use changes the neurobiology of pain sensation, creating tolerance to opioids.² These patients have a lower pain tolerance than opioid-naïve patients and often require higher doses of opioids for analgesia.²

Physicians may be hindered by biases when caring for patients on long-term opioid therapy or with a history of opioid-use disorder. Physicians have reported anxiety about being manipulated by patients to get opioids

that are not medically indicated.² Physicians have also expressed worry that using opioids may induce a relapse of addiction.³ There is no data to suggest that this is true. Several small studies have looked at this and found no increased risk of relapse.³ Instead, multiple studies have shown that these patients are usually undertreated⁴ and are more likely to have poor outcomes when their acute pain is not well managed.²

There also seems to be a poor understanding of how opioid dependent patients experience pain. Although studies have shown that these patients have less tolerance for pain than opioid-naïve patients, a minority of physicians know that to be true.⁴ This leads to missed opportunities to manage pain. With precise calculations and careful monitoring of symptoms, opioid-dependent patients can have acute pain safely and effectively addressed in the hospital. Table 1 outlines an effective approach to opioid analgesia for this patient with heroin-use disorder who is experiencing severe, acute pain.

Opioid Withdrawal

Opioid withdrawal may occur in hospitalized, opioid-dependent patients who are not receiving adequate opioid therapy. Common symptoms include: diffuse pain, abdominal cramps, nausea, vomiting, diarrhea, yawning, rhinorrhea, lacrimation, with elevations in heart rate and blood pressure seen in more severe cases. There are scoring systems available to help further categorize the severity of withdrawal and guide treatment.² The timing of the onset of symptoms depends upon the opioid used. Acute withdrawal from short-acting opioids begins after 8-12 hours, peaks at 36-72 hours, and lasts 7-10 days while acute withdrawal from long-acting opioids begins at 36-72 hours, peaks at 4-6 days, and lasts 14-21 days.²

Opioid withdrawal is best managed through the administration of opioids in conjunction with symptom-directed therapy. In general, symptom-directed

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treatment without opioids is not as effective⁵ and should be avoided if possible. For acute opioid withdrawal, you may start methadone or buprenorphine as part of an inpatient detoxification versus initiation with linkage to an outpatient clinic at discharge. When deciding which to start, considerations include cost, access to follow up care (methadone clinic versus any physician with buprenorphine training certification), risk for medication interactions, patient preference, and whether the patient has a pre-existing prolonged QTc (which would be increased by methadone). Table 2 outlines recommended dosages and schedules for both medications.

References

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Table 1. Acute Pain Management in Heroin-use Disorder

<p>100 mg IV heroin = 15-30 mg IV morphine 15 mg IV morphine = 45 mg PO morphine Ms. Smith has been using ~700 mg IV heroin daily for the last 10 days without adequate analgesia = 105 mg IV morphine</p>
<p>Oral SR opioid for basal with IV or oral short acting opioid for breakthrough</p> <ol style="list-style-type: none"> Calculate baseline opioid use in oral morphine equivalents (OME) 100 mg IV morphine/24 hours = 300 mg oral morphine/24 hours Reduce dose by ~25-50% to account for incomplete cross tolerance Oral morphine 150 mg/24 hours Convert reduced dose to long acting agent for baseline pain control Morphine SR 45 mg q 8 hour or morphine SR 75 mg q 12 hours Use short acting IV opioid agonist or start opioid PCA for rapid titration to address acute pain
<p>Morphine 5-7.5 mg IV q 3 hours PRN breakthrough</p> <ul style="list-style-type: none"> Emphasize non-opioid and non-drug treatments Convert to oral opioids asap Opioids will be tapered as acute pain improves The goal is to effectively treat acute pain, improve function and prevent withdrawal symptoms Discharge plan: <ul style="list-style-type: none"> Refer for MAT or initiate in hospital if able Harm-reduction strategies

Table 2. Buprenorphine and Methadone Tapering Protocols²

<p>Buprenorphine Detoxification Buprenorphine/naloxone 2/0.5 mg SL film or tab:</p> <ul style="list-style-type: none"> QID x 2 days then TID x 2 days then BID x 2 days then daily x 2 days then stop
<p>Buprenorphine Induction (with planned linkage to outpatient clinic) Buprenorphine/naloxone 8/2mg SL film or tab:</p> <ul style="list-style-type: none"> Day 1: 1/2 film or tab; reassess 1-2 hours - ? film or tab; repeat until cravings and withdrawal resolve; max dose day 1=8 mg Day 2: Day one dose + ? film or tab; reassess 1-2 hours; max dose 16 mg * if nauseated only or over sedated, the dose is too high
<p>Methadone</p> <ul style="list-style-type: none"> DAY 1: Methadone 10 -30 mg; reassess in 2 hours; if patient still having distressing withdrawal symptoms provide a one-time additional dose of 5-10 mg (maximum dose = 40 mg) Taper by 5-10 mg daily over 10-14 days * check ECG at baseline; avoid in patients with QTc Prolongation