

Teachable Moment

Acute Pain Management in Patients Treated With Buprenorphine

A Teachable Moment

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Story From the Front Lines

A man in his 40s with a history of opioid use disorder (OUD) in remission taking buprenorphine/naloxone, 16mg/4mg, presented to the hospital with a fifth distal phalanx fracture and was scheduled for surgery. He was told to stop taking buprenorphine/naloxone starting 2 days prior to surgery and was discharged hours after surgery with a prescription for oxycodone.

The patient presented for follow-up at the surgery clinic 4 days later reporting continued pain. He had finished the oxycodone and was instructed to restart buprenorphine/naloxone treatment. However, the surgeon was unable to write a prescription because buprenorphine (including the buprenorphine/naloxone formulation) can only be prescribed in the outpatient setting for treatment of OUD by physicians, nurse practitioners, and physician assistants who have completed a buprenorphine waiver training and received a special "X" number issued by the Drug Enforcement Agency. The patient's primary care physician (PCP), who holds a buprenorphine waiver and had prescribed him buprenorphine/naloxone for years, was not contacted. Without a clear plan for how to restart buprenorphine/naloxone treatment, and concerned that withdrawal was imminent, the patient experienced OUD relapse. Two months later he presented to the hospital with chest pain after snorting heroin. The patient was reconnected with his PCP, who prescribed buprenorphine/naloxone and explained that, in accordance with recent guidelines, her practice was generally not to stop buprenorphine/naloxone treatment prior to surgery, but rather to transition patients to every-8-hour dosing.

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This case builds on the theme of managing OUD in the inpatient setting highlighted in 2 prior Teachable Moment cases. The first case, from July 2017, illustrated the importance of offering addiction treatment to patients hospitalized with complications of OUD.¹ The second case, published in early 2019, described a novel buprenorphine induction method that obviates the need for patients to experience withdrawal.² The patient in that case, who was taking buprenorphine, was given preoperative instructions to stop taking it 2 days prior to surgery. This common preoperative plan, in conjunction with lack of communication between inpatient and outpatient physicians, placed the patient at risk for relapse.

Informed by early guidelines, the most common practice has been to taper patients off buprenorphine prior to an invasive procedure. This recommendation is not based on evidence, but is rather theoretical, stemming from buprenorphine's unique pharmacologic properties. Buprenorphine is a partial agonist with high affinity,

but low intrinsic activity, at the μ -opioid receptor, generating concern that using full agonist opioids might not provide adequate analgesia for patients taking buprenorphine.³ In addition, there is a misconception that naloxone is active in buprenorphine/naloxone preparations, creating confusion about whether full agonist opioids are safe to administer to patients taking buprenorphine/naloxone; importantly, naloxone is only activated when buprenorphine/naloxone is injected.

There are drawbacks to stopping buprenorphine treatment, including risk of patients experiencing withdrawal symptoms, cravings, and relapse. In addition, once the acute pain of surgery has improved, the unique pharmacologic properties of buprenorphine require that patients endure withdrawal for buprenorphine therapy to be restarted. For instance, if buprenorphine is given to a patient who is still physically dependent on full agonist opioids, it displaces the full-agonist opioids from the μ -opioid receptors, but activates the receptors to a lesser degree. The resulting net decrease in agonist effect manifests as withdrawal. To avoid this complication, physically dependent patients must no longer be experiencing the agonist effects of an opioid—they must be in withdrawal—when the first dose of buprenorphine is administered.

There is emerging evidence that continuing buprenorphine—including preparations with naloxone—in the perioperative period does not prevent adequate pain control. Newer guidelines, which are no longer based on theoretical knowledge but rather derive from case series and cohort studies, indicate that patients undergoing invasive procedures can maintain buprenorphine treatment.³⁻⁵ Although there is some variation across guidelines, there are many shared principles. First, if buprenorphine is administered once daily, it can be split into every-8-hour dosing to maximize the drug's analgesic effect (eg, 12 mg daily changed to 4 mg every 8 hours). Second, if further pain control is needed, standard principles of pain management should be followed, including the use of adjunctive therapies. Third, if full agonist opioids are needed for breakthrough pain, standard dosing protocols should initially be employed with the understanding that patients with OUD may need higher than usual doses owing to cross-tolerance and increased pain sensitivity.

Because the practice of maintaining patients on buprenorphine during the perioperative period is relatively new, patients may have questions about pain management. In addressing these concerns, it is important to consider the patient's history of opioid use, stage of recovery, and other anxieties about the perioperative period. For this reason, it is helpful for the surgical team to partner with the outpatient buprenorphine prescriber ahead of the procedure. The patient should be scheduled to be seen by this clinician within 1 week of discharge from the hospital.

ARTICLE INFORMATION

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