

MCSTAP Learning Case: Acute Pain Management for Patient on Suboxone

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Brief Description of Clinical Case

A 34-year-old male patient opened the radiator cap to his overheated car, leading to a pressurized gush of steam and superheated engine coolant spray directly into his face, causing immediate, diffuse thermal burns. He was taken to a local emergency department and found to have second-degree burns across his face including lips, nose, and periorbital regions, but sparing the sclerae and oral mucosa. The burn wounds have been cleaned and dressed by the emergency physician, and he is deemed safe for discharge with follow up in two to three days, but the patient is in severe pain.

The patient reports a long history of OUD (heroin), but he is now in recovery and doing well with Suboxone (buprenorphine/naloxone) 8:2 once a day as his maintenance dose, which has been stable for the preceding 18 months. His Suboxone is prescribed by his PCP with ancillary support and urine tox screens; he also reports his PCP remains in contact with the affiliated teaching hospital addiction clinic where he was first evaluated and treated for his OUD. The patient has no other active medical problems other than history of depression.

Medications

Suboxone 8:2 q day
Zoloft (sertraline) 50 mg q day

Caller Questions

1. What can I prescribe safely to treat his acute pain over the next few days?
2. What should I tell him to do about his Suboxone regimen?

Treatment Plan

1. Discuss care options with the patient, and determine his desire for avoidance or acceptance of short-term use of opioids to control pain.
2. Discuss risks of relapse in the patient with OUD history from re-exposure to short-acting opioids.
3. If opioids are likely indicated due to the severity of pain, consider:
 - a. Oxycodone 5mg tabs, 1-2 q 4 hours as needed over next 72 hours **OR**
 - b. Hydromorphone 4 mg tabs, 1 q 4 hours as needed for pain **OR**
 - c. Morphine sulfate immediate release 15 mg tabs, 1 q 4 hours as needed for pain **OR**
 - d. Tramadol 50-100 mg q 4 hours as needed for pain
4. Continue taking the Suboxone dose of 8:2 q day as before.
5. There is no need for long-acting pure agonist opioids.
6. Opioid needs should be evaluated at the follow-up visit and can likely be reduced or stopped by day 3-5.

Learning Points

1. Short-term use of opioids can be appropriate in the setting of acute, severe pain related to injuries or surgery even when the patient is taking Suboxone or other formulations of buprenorphine.
2. Buprenorphine has high *affinity* but low *activity* at mu receptors, and as a result, buprenorphine provides limited analgesia and will not likely provide adequate relief of severe pain in most patients.
3. The naloxone component of Suboxone is not significantly absorbed via the oral or transmucosal route and is present in the formulation to reduce risk of misuse by injection; physicians with limited experience with Suboxone may not know this fact and wonder "Doesn't the naloxone block the effect of opioids?". This is an opportunity to improve understanding.
4. While standard dosing of pure agonist opioids such as the ones discussed above (oxycodone, hydromorphone, morphine) can be adequate, higher doses may be necessary due to cross-tolerance and increased sensitivity to pain.
5. Even temporarily discontinuing buprenorphine in an up-till-now stable patient and then prescribing full agonist opioid for pain represents a real risk for the patient to develop a relapse. For this reason, it is highly advised to add the full agonist opioid for pain to the standing dose of buprenorphine even if temporary and short-term to mitigate that risk (1).
6. If short-term opioid analgesics are deemed appropriate, information should be provided about basic equianalgesic conversions:
 - a. Oxycodone 10 mg is equivalent to oral morphine 15 mg (conversion ratio of 2:3).
 - b. Hydromorphone oral 4 mg is equivalent to oral morphine 16 mg (conversion ratio of 1:4).
7. Most recent literature regarding acute pain management for patients using buprenorphine now recommends continuation of daily dosing regimen. This is based on increasing clinical experience of better patient outcomes with this approach; earlier literature suggested stopping buprenorphine (or tapering in advance of scheduled surgery), but this was based on theoretical concerns. Current best practice is to continue buprenorphine and consider the addition of pure agonist opioids when necessary (2, 3).
8. Some articles suggest managing pain in patients on buprenorphine by dividing the total daily dose by three and administering q eight hours, and this should be recognized as a potential option.

1. Bentzley BS, Barth KS, Back SE, Book SW. Discontinuation of buprenorphine maintenance therapy: perspectives and outcomes. *J Subst Abuse Treat.* 2015;52:48–57. doi:10.1016/j.jsat.2014.12.011
2. Cooper R, Vanjani R, Trimbur MC. Acute Pain Management in Patients Treated With Buprenorphine: A Teachable Moment. *JAMA Intern Med.* 2019;179(10):1415–1416. doi: <https://doi.org/10.1001/jamainternmed.2019.3103>
3. Macintyre, P. E., Russell, R. A., Usher, K. A. N., Gaughwin, M., & Huxtable, C. A. (2013). Pain Relief and Opioid Requirements in the First 24 Hours after Surgery in Patients Taking Buprenorphine and Methadone Opioid Substitution Therapy. *Anaesthesia and Intensive Care*, 41(2), 222–30. <https://doi.org/10.1177/0310057X1304100212>