

Rocking the bOAT: a case for ED based Opioid Agonist Therapy (OAT)

Grand Rounds, Sept 23, 2025

Stephen Kesselman

PGY-5 EM, University of Manitoba

1. Introduction

- OAT in the ED is an underutilized but evidence-supported approach.
 - Increasingly a standard and growing practice in Eds in Canada and North America, if not quite yet in MB
 - **Addiction is life-threatening, and the ED may be among the best (sometimes only) opportunity for intervention.**
-

2. Objectives

1. Define OAT – goals, benefits, therapies.
 2. Focus on **Buprenorphine/Naloxone** – pharmacology, induction methods.
 3. Review rationale and evidence for **ED-initiated buprenorphine**.
 4. Address barriers and hesitations to ED OAT starts.
 5. Argue that **Addictions Medicine is a core EM competency** and OAT initiation is safe, feasible, and essential.
-

3. Epidemiology of Opioid Use Disorder (OUD)

- Dramatic increase in opioid-related deaths and ED visits (2016–2024).
 - National deaths: **2019 – 3,742; 2024 – 7,146.**
 - ED visits: **2019 – 18,302; 2024 – 24,587.**
 - MB mortality rate (2024): **24.8/100,000** (higher than national avg. 17.3/100,000).
 - **20–39 year olds disproportionately affected**; in 2021, ~29% of deaths in this age group were opioid-related.
 - **Risk after non-fatal OD:** 5% mortality at 12 months; 22% of those deaths occur within 2 days.
-

4. Principles of OUD Treatment

- **Harm reduction** – familiar in ED practice.
- **Detox** - alone w/out OAT incorporated is discouraged – increases relapse/OD risk.
- **Psychosocial supports** crucial.
- **Medical pillar = OAT** – reduces unsafe supply use, OD, and mortality.

Main therapies:

- **Buprenorphine/Naloxone** (Suboxone)
 - Methadone
 - Slow-Release Oral Morphine (Kadian)
 - Injectable OAT (HM, DAM)
-

5. Buprenorphine/Naloxone: Key Pharmacology

- **Partial agonist** at mu receptor; high binding affinity, outcompetes other opioids and naloxone.
 - Includes naloxone (deterrent for injection/snorting).
 - Rapid onset (1–4 hrs), duration is dose dependent.
 - **Ceiling effect** on respiratory depression, sedation (but not analgesia) → safer than full agonists.
-

6. Induction Approaches

- **Traditional** induction: abstinence required, slow titration → impractical in ED.
 - **Micro/low-dose** induction: gentler, outpatient use → also not ED-friendly.
 - **Macro-dosing (ED-appropriate):**
 - High initial doses → rapid relief, safe due to ceiling effect.
 - Effective for withdrawal (incl. post-naloxone OD).
 - Symptom control & transition to maintenance within 3–6 hrs.
-

7. Evidence for ED-Initiated Buprenorphine

- **High-dose is safe** - with rapid symptom relief, improved treatment retention

- **Macro-dosing → extended receptor blockade** reduces cravings/reinforcement of unregulated opioid use, protective effects in high-risk immediate post OD period.
 - **XR/Depo formulations** (increasingly used):
 - Improves retention vs SL buprenorphine.
 - Provides extended protection against cravings and OD.
 - Rapid induction to XR using moderate-high dose SL feasible, even in ED setting
 - **Studies** show higher treatment engagement, reduced OD, better retention when ED-initiated, as well as good uptake on part of ED providers when given structured OAT initiation protocol.
-

8. Barriers to Implementation

- **Provider-related:** lack of comfort, training, stigma, belief that ED isn't the right setting.
 - **Institutional:** prescribing restrictions, lack of protocols/support, inertia of practice norms.
 - **External:** unreliable follow-up pathways, referral gaps.
-

9. Key Takeaways

- **Untreated Addiction is life-threatening;** ED visits may be a rare chance to intervene.
- **Buprenorphine can be life-saving;** consideration of OAT initiation should be a standard of care in EDs for patients in opioid withdrawal or post-naloxone reversal.
- **Macro-dosed and XR buprenorphine:** safe, effective, feasible in the ED.
- **Addictions Medicine is Emergency Medicine;** it should be viewed as a core competency of EM, and our training should reflect that.

References

1. Herring AA, Vosooghi AA, Luftig J, et al. High-Dose Buprenorphine Induction in the Emergency Department for Treatment of Opioid Use Disorder. *JAMA Netw Open*. 2021;4(7). doi:10.1001/jamanetworkopen.2021.17128
2. Ochalek TA, Ringwood KJ, Davis TT, et al. Rapid induction onto extended-release injectable buprenorphine following opioid overdose: A case series. *Drug and Alcohol Dependence Reports*. 2023;7. doi:10.1016/j.dadr.2023.100144
3. Kelly TD, Hawk KF, Samuels EA, Strayer RJ, Hoppe JA. Improving Uptake of Emergency Department-initiated Buprenorphine: Barriers and Solutions. *Western Journal of Emergency Medicine*. 2022;23(4):461-467. doi:10.5811/westjem.2022.2.52978
4. Stone KD, Scott K, Holroyd BR, et al. Buprenorphine/naloxone initiation and referral as a quality improvement intervention for patients who live with opioid use disorder: quantitative evaluation of provincial spread to 107 rural and urban Alberta emergency departments. *Canadian Journal of Emergency Medicine*. 2023;25(7):598-607. doi:10.1007/s43678-023-00520-3
5. Moe J, Chong M, Zhao B, Scheuermeyer FX, Pursell R, Slaunwhite A. Death after emergency department visits for opioid overdose in British Columbia: a retrospective cohort analysis. *CMAJ Open*. 2021;9(1):E242-E251. doi:10.9778/cmajo.20200169
6. Weiner SG, Baker O, Bernson D, Schuur JD. One-Year Mortality of Patients After Emergency Department Treatment for Nonfatal Opioid Overdose. *Ann Emerg Med*. 2020;75(1):13-17. doi:10.1016/j.annemergmed.2019.04.020
7. *MANITOBA OPIOID AGONIST THERAPY RECOMMENDED PRACTICE MANUAL 1.2 Application, Training, & Regulatory Requirements to Provide Opioid Agonist Therapy REGULATION OF OAT PRESCRIBING & DISPENSING*. www.cpsm.mb.ca
8. Cesar B, Moore J, Isenberg R, et al. Extended-release Injectable Buprenorphine Initiation in the Emergency Department. *Western Journal of Emergency Medicine*. 2025;26(4):888-896. doi:10.5811/westjem.21299
9. Shiwach R, Le Foll B, Alho H, Strafford S, Zhao Y, Dobbins R. 557 A Randomized Study Comparing Rapid Versus Standard Induction to Buprenorphine Extended-Release Injection. *Ann Emerg Med*. 2025;86(3):S239-S240. doi:10.1016/j.annemergmed.2025.06.579
10. D'Onofrio G, O'Connor PG, Pantalon M V., et al. Emergency department-initiated buprenorphine/naloxone treatment for opioid dependence: A randomized clinical trial. *JAMA - Journal of the American Medical Association*. 2015;313(16):1636-1644. doi:10.1001/jama.2015.3474
11. Marion-Bellemare L, Srivastava A, Samson J, et al. Initiation of extended-release buprenorphine in emergency department patients: A retrospective cohort study. *American Journal of Emergency Medicine*. 2025;94:71-75. doi:10.1016/j.ajem.2025.04.011

12. Lee K, Mead A, Ghauri I, Hollett B, Drolet M, Kozicky JM. Initiation and Dosing of Extended-Release Buprenorphine: A Narrative Review of Emerging Approaches for Patients Who Use Fentanyl. *Subst Abuse Rehabil.* 2025;Volume 16:71-82. doi:10.2147/sar.s516138
13. Koh JJ, Chenoweth J, Miles I. Expanding access to buprenorphine/naloxone in the emergency department. *Canadian Journal of Emergency Medicine.* Springer Nature. 2023;25(7):543-544. doi:10.1007/s43678-023-00543-w
14. Lee K, Zhao Y, Merali T, et al. Real-world Evidence for Impact of Opioid Agonist Therapy on Nonfatal Overdose in Patients with Opioid Use Disorder during the COVID-19 Pandemic. *J Addict Med.* 2023;17(6):E374-E381. doi:10.1097/ADM.0000000000001213
15. Kaczorowski J, Bilodeau J, M Orkin A, Dong K, Daoust R, Kestler A. Emergency Department–initiated Interventions for Patients With Opioid Use Disorder: A Systematic Review. *Academic Emergency Medicine.* 2020;27(11):1173-1182. doi:10.1111/acem.14054
16. Koh JJ, Klaiman M, Miles I, et al. CAEP Position Statement: Emergency department management of people with opioid use disorder. *Canadian Journal of Emergency Medicine.* 2020;22(6):768-771. doi:10.1017/cem.2020.459
17. Johns SE, Bowman M, Moeller FG. Utilizing Buprenorphine in the Emergency Department after Overdose. *Trends Pharmacol Sci.* Elsevier Ltd. 2018;39(12):998-1000. doi:10.1016/j.tips.2018.10.002