

A perioperative approach to the opioid crisis

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The number of opioid-related deaths continues to rise in Canada. One contributing factor that may warrant more attention is perioperative prescribing. Many patients are first exposed to opioids after surgery to relieve acute pain. This relief, however, carries the risks of adverse effects, addiction, overdose and problematic use. For some, injection heroin use — a leading cause of opioid-related death — begins with nonmedical use of prescription opioids.¹ Judicious prescribing and follow-up during the perioperative period has the potential to decrease opioid-related morbidity and mortality.

Guidelines recommend restricting postoperative prescriptions in duration and dose. The Institute for Clinical Systems Improvement recommends no more than three days' supply, or 20 pills, of low-dose, short-acting opioids, with re-evaluation by a physician in three to five days.^{2,3} Canadian and US guidelines for chronic pain also recommend limiting prescriptions to no more than 50 morphine milligram equivalents (MME) daily.^{2,4} Evidence, however, shows that these doses are commonly exceeded. A study of Ontario data explored opioid prescriptions for various indications.⁵ Among 653 993 new users of prescription opioids, one in six received prescriptions for postsurgical pain, of which 40% were at doses higher than the recommended 50 MME.^{2,4,5} Another cohort study that included patients undergoing common surgical procedures found that patients received prescriptions of 375 MME, surpassing all recommendations for acute and chronic pain.^{2-4,6} It seems that despite dosing recommendations, opioids continue to be overprescribed after surgery.

The consequences of opioid overprescribing are manifold and severe. Availability of excess pills magnifies the risk of adverse effects and physiologic dependence, while contributing to tablet stockpiling, diversion into communities, intentional or unintentional overdose and opioid use disorder. Overprescribing may potentiate chronic opioid dependency; 6% of opioid-naïve patients become persistent users of opioids months after surgery.⁷ Prolonged durations of opioid prescriptions can also predict opioid use disorder, as each additional refill after surgery increases the likelihood of misuse (dependence, abuse, overdose) by 44%, and each additional week of use increases misuse by 34%.⁸ In a well-meaning effort to curb short-term postsurgical pain, clinicians may inadvertently subject their patients to long-term harm.

KEY POINTS

- Opioid overprescribing after surgery may be contributing to Canada's current opioid crisis.
- Despite guideline recommendations to limit duration and dose, evidence suggests that opioids are being prescribed for too long and at doses that are too high, after many surgical procedures.
- Overprescribing increases the risk of adverse effects, dependence, stockpiling or diversion of tablets, and opioid use disorder.
- Possible solutions include efforts to identify high-risk patients routinely, individualizing opioid prescriptions through predictive tools, improving community follow-up and leveraging specialists' roles.

Efforts are already underway to limit postoperative opioid prescribing. Enhanced Recovery After Surgery protocols emphasize multimodal analgesia and optimal nutrition to facilitate recovery.⁹ By de-emphasizing opioid analgesics, these protocols may decrease postoperative opioid consumption by nearly half, while decreasing pain and length of hospital stay. There are also guidelines that emphasize multimodal analgesia, including nonopioid agents, regional techniques and nonpharmacologic strategies to reduce opioid burden.^{2,10} Finally, implementing institution-specific prescribing guidelines sets a standard to which clinicians can be held. There is still a need, however, for novel systemic and clinical strategies to better address this problem.

Clinicians face the challenge of providing balanced analgesia after surgery: prescribing too many doses carries the risks of adverse effects and problematic use, while restrictive prescribing may result in undertreated pain, readmissions or repeated refills. This ambiguity in what comprises an "optimal opioid prescription" may bias clinicians toward providing "just-in-case" pills. The development of a tool to predict patients' opioid needs could guide prescribers to minimize opioid doses without sacrificing analgesia. This can be achieved by considering patient factors — including psychology, pain and opioid requirements in the 24 hours preceding discharge — and surgical factors, such as procedure invasiveness and whether trauma was the cause for surgery.^{11,12} For example, the Toronto General Hospital's

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Transitional Pain Service employs a model to predict patients at risk of high opioid requirements, problematic use and chronic postsurgical pain. Patients receive interventions to reduce opioid use and pain.¹² Research to predict opioid needs could steer away from a “one-size-fits-all” approach and toward individualized prescription and harm reduction.

To further personalize opioid management, clinical tools could be used to identify patients who are at risk of adverse effects and misuse, thereby guiding targeted interventions. Scoring systems such as the Opioid Risk Tool, Brief Risk Interview, and Screener and Opioid Assessment for Patients with Pain – Revised can identify high-risk patients.¹¹ Other predictors include anxiety, depression, catastrophizing, chronic opioid use and neuropathic pain.¹² Patients with such risk factors may benefit from pain or psychiatric evaluation, multidisciplinary pain management services and multimodal analgesia.¹⁰ Clinicians and institutions should consider these predictors in their standard preoperative assessments.

Postsurgical pain and opioid management must continue after patients return to the community, ideally with re-evaluation by a primary care physician in three to five days.³ In the United States, some jurisdictions limit prescription durations to ensure patients are followed appropriately after opioid therapy is begun. More sites should involve hospital pain services, such as an acute-to-chronic pain transition service, to follow high-risk patients after discharge. When resources allow, perioperative physicians could consider limiting prescription duration with the understanding that patients receive timely pain follow-up after discharge.

Anesthesiologists and pain clinicians are well placed to manage postoperative pain in patients who are at risk of adverse outcomes. More research is needed on specific care models, but these specialists can oversee discharge prescriptions using knowledge of the patient’s pain experience and opioid requirements in-hospital. This could enhance the continuum of care for patients in the postoperative period, rather than restricting the anesthesiologist’s influence to the patient’s time within hospital walls. Further, anesthesiologists’ working relationships with surgeons can be leveraged to ensure that all prescribers adhere to recommended practices. Hospitals could facilitate communication between surgery and anesthesiology teams to optimize discharge prescriptions for high-risk patients. In the community, opportunities to refer to pain specialists may improve treatment of challenging cases of postoperative pain and opioid use.

Opioid overprescribing after surgery remains problematic despite recommendations for cautious and limited prescribing of perioperative opioids. Excess opioids place patients at risk of adverse effects and contribute to pill stockpiling, dependence

and problematic use. While efforts are underway to curb overprescription, the skills of anesthesiologists and pain specialists could be leveraged to identify high-risk patients and promote conscientious prescribing and safe analgesia.

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