

# Planning for Perioperative Pain Management



Rebecca Dale, DO<sup>a,\*</sup>, Tiffany Chen, MD<sup>b</sup>, Jane Ballantyne, MD, FRCA<sup>a</sup>

## KEYWORDS

- Pain • Analgesia • Postoperative • Perioperative • Preoperative • Opioid sparing
- Regional • Review

## HOSPITAL MEDICINE CLINICS CHECKLIST

1. Create a postoperative pain plan that is individualized to the patient's pain history, comorbidities, and surgical procedure.
2. Educate the patient preoperatively about what pain to expect and how it will be managed.
3. The choice of opiate depends on patient preference/experience as well as the patient's renal and hepatic function.
4. Patient controlled analgesia is an effective delivery mechanism for parental opioids that can be especially useful to achieve adequate pain control in patients on chronic opioids (eg, substance abusers, patients with chronic pain).
5. Use regional anesthesia and nonopiate analgesics to optimize pain control while decreasing opiate use to minimize opiate-related adverse effects.
6. Acetaminophen, nonsteroidal antiinflammatory drugs (NSAIDs), and gabapentin all decrease opiate use postoperatively but only NSAIDs and gabapentin have been shown to decrease opiate-related adverse effects like postoperative nausea and vomiting.
7. Ketamine is a useful adjunct when high doses of opiates do not provide adequate pain control, but is limited by its dose-dependent psychotomimetic side effect.
8. In patients with advanced age, renal insufficiency, and/or cirrhosis, NSAIDs should be avoided and opioid dose reduced. Frequent reassessment and titration are needed for optimal pain control.

<sup>a</sup> Department of Anesthesiology and Pain Medicine, University of Washington, 1959 NE Pacific Street, Seattle, WA, USA; <sup>b</sup> Department of Internal Medicine, University of Washington, 1959 NE Pacific Street, Seattle, WA, USA

\* Corresponding author.

E-mail address: [rdale@uw.edu](mailto:rdale@uw.edu)

## PREOPERATIVE CONSIDERATIONS

*What are the essential questions to ask about a patient's history to optimally manage postoperative pain?*

The preoperative evaluation should include a pain history focusing on the patient's prior experience with pain, prior and current use of pain medications, and reflection on what pain regimens have been particularly effective or intolerable. A targeted medical history that identifies significant hepatic and/or renal impairment affects the metabolism and clearance of many analgesics. An accurate medication list is essential because chronic pain medications like opioids, antidepressants, and neuropathic agents should be continued to prevent withdrawal syndromes.

*Why is preoperative patient education important, and what education should be provided?*

Psychological preparation is often overlooked, but well-informed patients are better prepared to cope with postoperative pain than their uninformed counterparts.<sup>1</sup> High levels of anxiety preoperatively predict poor performance on outcome measures such as speed of wound healing and duration of hospital stay.<sup>2</sup> Cognitive and behavioral interventions have been shown to decrease postoperative pain intensity and analgesic consumption, and improve cardiovascular and respiratory indices.<sup>3</sup>

Providers should explain that some postoperative pain is normal and describe what type, severity, and duration of pain patients might experience. Patients should be reassured that providers will actively treat their pain to make them comfortable but that the complete elimination of pain is unrealistic. Once a pain control plan is formulated, it should be shared with the patient. If patient controlled analgesia (PCA) will be used, it can be helpful to provide instructions on its use beforehand.

## OPIOIDS

*How should the appropriate opioid therapy be chosen to control postoperative pain?*

Selection of a specific opioid postoperatively can be guided by patient preference because there are few absolute contraindications, and true allergies are rare. Exceptions to this include renal and hepatic insufficiencies (discussed later). In general, during the first 24 to 48 hours after surgery parenteral opioids are administered because the pain during this period tends to be most severe, and often patients are not able to tolerate oral administration. PCA is a safe and effective way to administer parenteral opioids postoperatively (**Table 1**).<sup>4,5</sup>

- Morphine was the first opioid alkaloid to be identified and continues to be the standard with which other opioids are compared. It is the least lipophilic of the opioids, which consequently delays its peak effect from 20 to 60 minutes after intravenous (IV) injection.<sup>6</sup> It is highly metabolized, resulting in active metabolites, which can lead to a prolonged duration of action, especially in patients with renal failure. Morphine can induce histamine release, with rapid bolus injections leading to erythema, hypotension, and rarely bronchospasm.

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