

The Use of Opioid Analgesics in the Management of Acute and Chronic Orofacial Pain in Canada: The Need for Further Research



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In late 2013, a focus group met to participate in the Orofacial Pain Team Workshop, held in Montreal, Canada, where the issue of appropriate opioid analgesic prescribing for pain by Canadian dentists was discussed. There was agreement that the use of opioid analgesics by dentists for either acute or chronic orofacial pain conditions has not been investigated satisfactorily in this country.

A number of questions related to the use of opioid analgesics by dentists were raised by the focus group: How well do dentists manage post-operative pain? How often do patients report inadequate analgesia after dental surgery? How often are opioid analgesics prescribed and for which procedures? Do dentists overprescribe? Do they instruct their patients about the risks related to leftover doses? Do dentists monitor the use of opioid analgesics by their patients and, if so, how does monitoring vary in urban compared to rural areas? Is opioid use different in underserved populations? What are the risk factors for problematic use? What is the current level of knowledge about the use of opioid analgesics in populations thought to be more vulnerable to misuse or abuse?

Opioid analgesic prescribing for acute dental pain

The existing literature suggests that the use of opioid analgesics for acute procedural pain varies significantly in different countries. In the UK in 2001, of all prescriptions for analgesics written by dentists, the most commonly prescribed analgesic was ibuprofen, representing 73% of prescriptions. The only commonly prescribed opioid analgesic was

codeine, which represented only 19% of prescriptions.¹ One of the most studied acute surgical procedures in dentistry is third molar extraction. Meta-analyses indicate that NSAIDs, like ibuprofen, show the best evidence for efficacy for pain post-extraction (roughly 80% of patients given 600 mg ibuprofen had >50% pain relief), consistent with the use of ibuprofen by UK dentists.^{1,2} Use of codeine (60 mg) with acetaminophen (650 mg) is less likely to produce significant pain relief post-extraction, and is associated with a much greater incidence of adverse effects.¹

In contrast to the modest prescribing rate of opioid analgesics by UK dentists, in the US, 12% of all immediate release opioid analgesic prescriptions are written by dentists (just slightly less than family physicians).³ An American Dental Association survey from 2006 suggested that while a majority of oral and maxillofacial surgeons (74%) preferred patients to use ibuprofen after third molar extraction, 85% also prescribed an opioid analgesic post-procedure (most commonly hydrocodone or oxycodone).³ Prescribing patterns after oral surgical or endodontic treatments at a dental clinic at the University of Alabama indicated about 80% of patients received a prescription for an opioid analgesic (most commonly hydrocodone or oxycodone in combination with acetaminophen).⁴ The most common procedure that resulted in a prescription for an analgesic was tooth extraction, but only 1% of prescriptions for tooth extraction-related pain were for NSAIDs, while over 90% of these patients received a prescription for an opioid analgesic.⁴

Of concern, this study also noted that patients over the age of 45 were more likely to receive an opioid analgesic prescription than younger patients, and about 25% of patients attending the clinic were not prescribed any analgesic after an invasive procedure that would be expected to cause pain.⁴ Moreover, the higher prescribing rate of opioid analgesics for dental pain in the US is not confined to dental health providers. A study of prescribing of opioid analgesics by physicians in a US hospital emergency department for painful dental conditions found that roughly 60% of patients were discharged with a prescription for an opioid analgesic.⁵

Most dentists do not screen patients for past history of abuse or misuse prior to prescribing an opioid analgesic. Surveys of dentists and maxillofacial surgeons indicate that an average of 20 doses of an opioid analgesic (commonly hydrocodone or oxycodone) are prescribed post-procedure and most dentists expect patients to have leftover analgesics.^{4,6} Particularly concerning was the expectation by dentists that many patients given prescriptions for opioid analgesics would not require all of the doses dispensed.^{4,6} It is thought that unused opioid analgesics are a significant source of misused drugs.³ The risk of misuse of leftover opioid analgesics by younger individuals is of particular concern.³

Greater collaboration between Canadian dentists and pharmacists is needed to address this problem. One potential solution to prevent inadvertent overprescribing of opioid analgesics is to have dentists write prescriptions for fewer initial doses. Instead, dentists could arrange for additional doses as needed, to be filled at the discretion of a pharmacist. Dentists should avoid prescribing opioid analgesics if patients are already on a

benzodiazepine or have a known history of misuse of these drugs and should be available to return pharmacist's calls rapidly if a problem occurs at renewal time.⁷

Opioid analgesic prescribing for chronic non-cancer orofacial pain

It is unclear how often Canadian dentists or family physicians use opioid analgesics for the treatment of moderate to severe chronic non-cancer orofacial pain conditions such as temporomandibular disorders (TMDs) and neuropathies. Dentists, in particular, may not feel confident prescribing or monitoring opioid analgesics for these chronic pain conditions. There is also little evidence that supports the use of opioid analgesics for the treatment of chronic orofacial pain (**Table 1**). Nevertheless, the use of opioid analgesics for chronic TMDs pain that has not responded adequately to all other treatments (i.e., physical therapy, cognitive and behavioural therapy, NSAIDs such as ibuprofen or diclofenac, antidepressants such as nortriptyline or duloxetine, and antiepileptics such as gabapentin) may be warranted. However, evidence indicates that only a subgroup of patients will find opioid analgesics effective over months or years, and of these, 50% will have adverse effects that will lead many to discontinue their use.^{8,9} Thus, it is recommended that initiation of opioid analgesic therapy be done on a trial basis and re-evaluated frequently (**Table 1**).

Table 1: Opioid prescription for chronic, non-malignant orofacial pain*

Proper Patient Selection

1. Consider opioid prescription for patients with neuropathic pain, temporomandibular disorders,** atypical facial pain,** rheumatoid arthritis, neck pain, headache.**
2. Consider a trial when pain is moderate to severe (>4/10), has an adverse effect on function or quality of life, and when patients have not responded to non-opioid analgesic therapies or to opioid analgesic therapy with codeine or tramadol.
3. Consider patient's medical history, including general medical history, current medications (prescription and over-the-counter drugs), recreational drug use (alcohol, cannabis, etc.), psychosocial history (information related to employment and support network, including friends and family), dental exam (including appropriate diagnostic tests and assessment of type(s) of pain), risk assessment (history of abuse, misuse or addiction and occurrence of other conditions such as sleep apnea), and benefit-to-harm analysis.

Consent and Management of Therapy

1. Obtain verbal or written informed consent from patient.
2. Discuss and document initial and ongoing monitoring of goals, expectations, risk-benefit (including side effects) and alternatives.
3. Initiate a short-term therapeutic trial, reassess need periodically.

4. Individualize treatment "start low, go slow" (immediate release opioid analgesic preferred for titration, low initial dosing and titration, regular dosing with allowance of as needed doses for breakthrough) based on health, previous exposure to opioid analgesics, attainment of goals, and incidence of adverse effects.
5. Avoid concomitant benzodiazepines, if currently using, decrease dose slowly to permit discontinuation.
6. Monitor efficacy regularly to ensure optimum pain management (available tools include the McGill Pain Questionnaire¹³, [Brief Pain Inventory](#))
7. Consider periodic urine drug screens in patients at risk for misuse or aberrant behavior.
8. Manage adverse effects as required (e.g., constipation is common, decreased libido/sexual dysfunction (less common), sleep apnea (less common), hyperalgesia is rare).
9. Caution that cognitive impairment may affect driving and work safety.
10. **Maintain detailed records** (include reasons for continued use).

*Based on criteria from previously published guidelines.¹⁰⁻¹²

**Indicates a lack published evidence for opioid agonist efficacy.

Long-term opioid treatment of chronic nonmalignant orofacial pain: unproven efficacy and neglected safety?

The focus group suggested that future prospective studies should be conducted to assess management of acute, post-operative and chronic orofacial pain in Canada. Such studies should include quantitative and qualitative measures of pain as well as measures of psychosocial factors and addiction risk.^{7,10} These studies should include evaluations at least 6 months after an operation in order to determine the prevalence of persistent post-operative pain and to evaluate the efficacy of sustained use of opioid analgesics to treat chronic orofacial pain conditions.

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