January 29, 2021

Clinical Review: Recommendations for the Management of Acute Dental Pain

Learning Objectives:

- Review recommendations of the American Dental Association (ADA) and the American Academy of Pediatric Dentistry (AAPD) regarding routine management for acute dental pain, including the recommendations for non-opioid analgesics as first line agents
- Describe factors to consider when prescribing medications for the relief of acute dental pain
- Understand the risks associated with using opioid medications and medication combinations to manage acute dental pain

Key Points:

- Both the ADA and the AAPD recommend non-opioid analgesics, such as non-steroidal anti-inflammatory drugs (NSAIDs) and acetaminophen for management of acute dental pain.
- NSAIDs have been shown to be more effective at reducing pain than opioid analgesics and are therefore recommended as the first-line therapy for acute pain management for patients without risk factors for NSAIDs. Combination therapy using NSAIDs and acetaminophen has also been associated with more treatment benefit and fewer side effects than opioid-containing regimens.
- If use of opioids for management of acute dental pain is warranted, the Centers for Disease Control and Prevention (CDC) recommends that clinicians prescribe the lowest effective dose of immediate-release opioids and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids (three days or less will often be sufficient and more than seven days is rarely ever needed).
- In the Medi-Cal fee-for-service population, only 36% of paid claims for opioid medications prescribed by dentists and oral and maxillofacial surgeons between March 1, 2019, and February 29, 2020, were for three days or less.

Background

Acute dental pain can affect both the soft and hard tissues of the mouth and may be the result of underlying disease, injury, or dental procedures such as tooth extractions.[1] Dental pain is a common complaint across all age groups, with patients often seeking care in the emergency department and other non-dentist facilities.[2]

When selecting a pain medication, health care professionals should consider the patient's medical history, the nature of the dental disease, pain severity, patient sensitivity to pain, past use of pain medicines, and the potential effects of surgery or other dental interventions. Many dental interventions such as scaling and root planing, simple extractions, frenectomy, and routine endodontics are likely to be associated with mild to moderate pain. Most extractions and other types of surgeries, such as implant or endodontic surgery, are typically associated with moderate severity anticipated pain. Severe pain might be anticipated with complex implants, partial or full bony impaction surgery or periodontal surgery.[3]

Pharmacological Management of Acute Dental Pain
Both the ADA and the AAPD recommend non-opioid analgesics, such as NSAIDs and acetaminophen for management of acute dental pain.[1,4] NSAIDs have been shown to be more effective at reducing pain than opioid analgesics and are therefore recommended as the first-line therapy for acute pain management for patients without risk factors for NSAIDs.[1] Combination therapy using NSAIDs and acetaminophen has also been associated with more treatment benefit and fewer side effects than opioid-containing regimens.[1,4]

A variety of NSAIDs, acetaminophen products, and acetaminophen/opioid combination products are available as a covered Medi-Cal pharmacy benefit. For current information on covered medications, including those medications that are available over-the-counter (OTC) with a valid prescription, visit the online Medi-Cal Formulary search tool available on the Search Medi-Cal Formulary page of the Department of Health Care Services (DHCS) website.

Risks of Using Opioid Medications for Acute Dental Pain
A 2018 overview of published systematic reviews evaluated the benefits and harms of orally administered analgesic agents for the relief of acute postoperative dental pain.[5] Treatments studied included acetaminophen, aspirin, codeine, gabapentin, NSAID monotherapy, acetaminophen/opioid combination therapy, NSAID/opioid combination therapy, NSAID/caffeine combination therapy, and NSAID/acetaminophen combinations.[5] The highest percentage of adverse events were seen with opioid medications and acetaminophen and NSAID monotherapy had the lowest incidence of adverse events.[5]

Despite questionable efficacy and increased risk for adverse events, dentists account for the largest source of opioid medications prescribed to children and adolescents and there are concerns that initial opioid prescriptions from dental clinicians may develop into persistent use of opioids.[2,6,7]

Other reviews of dental prescribing in the United States have noted 29% of prescribed opioids exceed the recommended morphine equivalents for management of acute pain and 53% exceed the 3 days' supply recommended by the CDC.[8,9]

Opioid Prescribing for Acute Dental Pain in the Medi-Cal Fee-for-Service Population
A retrospective cohort study was conducted to evaluate utilization of opioid medications for acute dental pain in the Medi-Cal fee-for-service population. All paid pharmacy claims for opioid medications with dates of service from March 1, 2019, through February 29, 2020, were included.

Among all 287,928 paid claims for opioid medications in the Medi-Cal fee-for-service population between March 1, 2019, and February 29, 2020, a total of 18,195 paid claims (6%) were prescribed by dentists or oral and maxillofacial surgeons. A summary of these paid claims stratified by age is shown in **Table 1**.

Table 1. Opioid Medications Prescribed by Dentists and Oral and Maxillofacial Surgeons between March 1, 2019, through February 29, 2020 in the Medi-Cal Fee-for-Service Population.

Paid Pharmacy Claims	17 Years of Age or Younger (n = 669)	18 – 64 Years of Age (n = 17,277)	65 Years of Age or Older (n = 249)	Total (n = 18,195)
Days' Supply ≤ 7	97%	97%	93%	97%
Days' Supply ≤ 3	46%	36%	39%	36%
Opioid naïve (no previous paid claims for any opioid medication within the previous 90 days)	97%	77%	67%	78%

The vast majority (97%) of pharmacy paid claims for opioid medications in this population were for seven days or less. While only 36% of paid claims for opioid medications prescribed by dentists and oral and maxillofacial surgeons were for three days or less, this rate was slightly higher among children and adolescents (46%) and older adults (39%). There was no difference observed when stratified by whether the paid pharmacy claim was prescribed by dentists or oral and maxillofacial surgeons.

Among children and adolescents, almost all (97%) were opioid naïve and did not have a previous paid claim for any opioid medication within the previous 90 days. In addition, of the 26 beneficiaries that were under 12 years of age, a total of 12 (46%) had a paid claim for a codeine-containing product, which is contraindicated in this age group.[10]

Conclusion/Discussion
NSAIDs have been shown to be more effective at reducing pain than opioid analgesics and are therefore recommended as the first-line therapy for acute pain management. Combination therapy using NSAIDs and acetaminophen have also been associated with more treatment benefit and fewer side effects than opioid-containing regimens. Opioids still remain an option for acute dental pain, but all health care professionals should aim to follow CDC guidelines for prescribing.

Clinical Recommendations:

- When considering which pain medication to prescribe, dentists should review past and current medications, potential drug interactions and history of substance abuse.
- Consider NSAIDs or acetaminophen for most mild to moderate pain, and as first-line therapy for acute pain.
- Consider multimodal pain strategies, such as combining NSAIDs with acetaminophen for management for acute postoperative pain as a means for sparing the need for opioid analgesics.
- If use of an opioid is warranted:
    - Review the guidelines and resources available on the CDC's Dental Pain web page, including the recommendation that clinicians should prescribe the lowest effective dose of immediate-release opioids and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids. Three days or less will often be sufficient; more than seven days will rarely be needed.
    - Consult the CURES 2.0 database.
    - Prescribe opioids in combination with first-line therapy.
    - Avoid use of multiple acetaminophen-containing preparations concomitantly.
    - Consider coordinating care with other providers, as needed.
    - Limit opioid prescriptions to 8-12 tablets for adolescents and young adults through 24 years old who are undergoing minor surgical procedures (e.g., third molar extractions).

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