Recommendations for Management of Acute Dental Pain

A collaboration between the Indian Health Service Division of Oral Health (DOH)
& Indian Health Service National Committee on Heroin, Opioid and Pain Efforts (HOPE)

Content: **Page(s):**

Purpose

The purpose of this document is to provide evidence-based guidance on prescribing for acute dental pain for adult patients. This guidance seeks to reduce unnecessary opioid prescribing and assist dentists in selecting the most appropriate, effective, and safest pain medication based on patients' individual medical status. This document does not consider every medical condition, but rather addresses the most common systemic medical conditions that affect acute pain medicine prescribing. This document is intended for general dentists and does not address pain management for the more complex and extensive surgeries performed by oral and maxillofacial surgeons. These general recommendations are meant to augment, not replace, clinical judgement.

Background and Statistics

- OPIOID OVERDOSES - Prescription and non-prescription opioid misuse is an on-going problem, contributing to the increasing rates of overdose deaths. Drug overdoses are higher in the American Indian / Alaska Native (AI/AN) population than in any other group in the U.S. and AI/AN overdose deaths increased by 15% between 2021 and 2022[1].
- AMOUNT OF DENTAL OPIOID PRESCRIPTIONS – From July 2016 – June 2017, dentists and oral and maxillofacial surgeons were responsible for 8.6% of the overall opioid prescriptions in the U.S. (over 18 million opioid prescriptions a year), averaging 117.7 opioids prescriptions per dentist per year[2]. More recently, general dentists have reduced opioid prescriptions by 45% and reduced total morphine milligram equivalents (MME) by 59% from 2012 to 2019[3]. However, in 2019, 39.5% of all opioid prescriptions written by dentists were still classified as high risk (ie, >3-day supply, ≥50 MME, opioids prescribed to patients taking a benzodiazepine)[4]. Additionally, between 2015-2017, approximately 37% of emergency department visits associated with dental symptoms received an opioid prescription[5] and multiple studies/surveys show that opioids were frequently prescribed in emergency departments for dental pain during this timeframe[5-7].
- UNUSED OPIOIDS FROM DENTAL PRESCRIPTIONS – Studies published in 2014 & 2016 showed that a significant number of opioids prescribed by dentists were not used for dental pain. More than 50% of the opioids prescribed after dental surgeries were not used by patients[8], and more than one-third (37.9%) of dental patients at an academic dental clinic reported some form of nonmedical use of prescription opioids, with 6.5% of these respondents reporting they had diverted their medication to others[9]. Reducing unused medication in the community could significantly impact public health and reduce likelihood of long-term opioid use/misuse[10].
- 3rd MOLAR EXTRACTION PRESCRIPTIONS - An important dental population exposed to opioids are the estimated 5 million people per year undergoing 3rd molar extractions in the U.S., which results in millions of adolescents and young adults being exposed to opioid medications each year[11]. Opioids prescribed after 3rd molar extractions are frequently the first opioid experience that adolescents and young adults have. The average age range of patients receiving opioids for 3rd molar extractions is 16-24 years old[12], with a mean age of 20[13]. Correspondingly, the highest misuse of prescription pain relievers in the U.S. from 2015-2019 was by patients ages 18-25[14]. Multiple studies suggest that patients who receive opioids after 3rd molar extractions have an increased risk of persistent opioid use and overdose[4,15,16]. In recent years, many dental school oral surgery departments have implemented pain prescribing protocols resulting in significant reductions in opioid prescriptions, MMEs, and number of opioid tablets prescribed, and higher rates of nonopioid pain prescriptions, without an increase of inadequate pain control for 3rd molar extractions[12,17]. Quantitative systematic reviews have indicated that combining ibuprofen with acetaminophen (APAP) may be a more effective analgesic, with fewer untoward effects, than opioid-containing formulations for 3rd molar extractions[18,19].

- DENTAL OPIOID PRESCRIPTIONS IN PATIENTS UNDER 25 - In 2019, dentists and surgeons accounted for 60% of all opioid prescriptions written to children and young adults ages 0-21[20]. This is important because brains don't fully develop until around age 25. Opioid use in patients under the age of 25 can alter brain development and patients that have been exposed to opioids in adolescence are more likely to develop substance use disorders, even after a single opioid exposure[15,21,22]. One study found that legitimate opioid use before high school graduation is independently associated with a 33% increase in the risk of future opioid misuse after high school among low risk individuals[23].

- CDC GUIDANCE ON ACUTE PAIN MANAGEMENT - In 2022, The Centers for Disease Control and Prevention (CDC) outlined evidence-based guidelines for the management of acute pain for patients ≥18 years of age that included specific guidance for dentists. The recommendations stated that nonopioid therapies are at least as effective as opioids for many common acute pain conditions and that nonsteroidal anti-inflammatory drugs (NSAIDs) are more effective than opioids for surgical dental pain[24].

- ADA GUIDANCE ON ACUTE PAIN MANAGEMENT – In 2023, the American Dental Association (ADA) released evidence-based clinical practice guidelines for managing acute dental pain in children and in 2024 they released guidelines for adolescents, adults, and older adults. These guidelines also stated that NSAIDs alone or in combination with APAP likely provide superior pain relief, with a more favorable safety profile, than opioids. It stated that opioids may not be the best approach to managing what is often inflammation-related acute dental pain whereas NSAIDs target the source of the pain (inflammation)[25-26].

Clinical Summary of Common Dental Pain Medications

It is recommended to obtain a pharmacy or medical consult when prescribing to patients with significant or multiple risk factors.

- NONSTEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDs) – The CDC and ADA recommends non-opioid analgesics as the first line therapy for the treatment of acute dental pain and only consider opioid therapy for acute pain if benefits are anticipated to outweigh risks to the patient[24-26]. Multiple studies have found that NSAIDs are at least as effective (or superior to) opioid analgesics for reducing frequency and intensity of acute dental pain[27,28].

  NSAIDs can cause increased fluid retention and elevations in blood pressure and can interfere with blood pressure control for patients taking hypertension medications or diuretics[29,30]. In 2015, the FDA strengthened its warning regarding the risk of heart attacks and strokes with NSAID use. This warning stated that the risk of heart attack or stroke can occur as early as the first weeks of using NSAIDs, the risk may increase with longer use and higher doses of NSAIDs, patients with heart disease or risk factors have a greater likelihood of heart attack or stroke following NSAID use, patients were more likely to die in the first year following their first heart attack if using an NSAID, and NSAID use is associated with a higher risk of heart failure[31].

  Use of NSAIDs, even for a short period of time, can harm the kidneys, especially in people with underlying kidney disease, and should generally be avoided for patients with significant chronic kidney disease or significant liver cirrhosis[29,30].

  Patients with bleeding disorders such as von Willebrand disease, abnormal platelet function from uremia, and a low platelet count (thrombocytopenia) should also generally avoid NSAIDs[29,30]. For patients with a history of significant gastrointestinal (GI) disturbances such as esophageal, stomach, or intestinal ulcers or GI bleeds, NSAIDs should be avoided. If unable to provide an alternative, a proton pump inhibitor (PPI) or misoprostol should be considered for co-prescription with NSAID. Risk

factors that increase the risk of an NSAID-associated GI event include history of peptic ulcer or GI bleed, dyspepsia, cardiovascular disease, age 60+ years old, use of antiplatelet medications (e.g. aspirin), use of anticoagulants (e.g. warfarin), use of corticosteroids, and high NSAID dose usage[30].

If one class of NSAID is not effective or contraindicated, another class of NSAID can be considered. Caution should be exercised when prescribing NSAIDs for acute pain management in special populations as outlined below and in patients already taking an NSAID.

- ACETAMINOPHEN (APAP) - APAP has been shown to have a synergistic effect when administered with NSAIDs for the treatment of acute dental pain. APAP, when taken by itself in dosages of 500-650mg, has an efficacy similar or superior to opioid therapy[18,19,28, 32,33]. The total APAP dose from ALL sources should not exceed 3,000 mg daily (4,000 mg daily if monitored or no risk factors)[34]. Patients should be counseled not to combine APAP prescriptions with other over the counter medications containing APAP or when adding an opioid/APAP combination medication.

  APAP should be used with caution in patients with known G6PD deficiency and/or liver disease[34]. In 2011, FDA issued a box warning regarding the risk of severe liver failure, especially when APAP recommended dosages are exceeded[35]. Caution should be exercised when prescribing APAP for acute pain management in special populations as outlined below.

- OPIOIDS – Opioid medications have been shown in multiple studies to be less effective, or no more effective than, NSAIDs for the treatment of postoperative acute dental pain, as they do not adequately control underlying inflammation that contributes to acute dental pain[18,19,24,26,27,28,32,33].

  Additionally, there are more adverse effects associated with opioid therapy than other analgesic medications[24,26,28]. In 2023, FDA strengthened their box warning regarding the risks of opioid-induced hyperalgesia, sedation, respiratory depression, coma, addiction, overdose, and death. FDA also warned of life-threatening respiratory depression associated with opioids when used in conjunction with benzodiazepines or other CNS depressants[36].

  Therefore, opioids should be reserved for use when NSAIDs are medically contraindicated and when additional pain control beyond NSAIDs + APAP is needed. Patients should be counseled not to combine APAP/opioid combination prescriptions with other over the counter medications containing APAP. Caution should be exercised when prescribing opioids for acute pain management in special populations as outlined below.

- CORTICOSTERIODS – Corticosteroid use following surgical extractions does not statistically improve acute dental pain outcomes[37]. The risks associated with corticosteroid use, especially in medically compromised patients, generally outweigh the benefits. They are therefore currently not recommended to treat acute dental pain[26].

General Recommendations

- Follow the recommendations laid out in the ADA Statement on the Use of Opioids in the Treatment of Dental Pain. See *Appendix A*.
- Dentists should be knowledgeable about educational and consultative services available to help them with decisions regarding acute dental pain prescribing and opioid stewardship. See *Appendix B*.
- Dentists practicing within the Indian Health Service are required to complete the IHS Essential Training on Pain and Addiction (IHS ETPA) course. Dentists must also complete the refresher course every three years. See *Appendix B*.
- Dentists with a DEA license must complete a training requirement (2025 requirement is 8 hours) on the treatment and management of patients with opioid or other substance use disorders. See *Appendix B*.

- Dentists should be knowledgeable about medications, such as benzodiazepines, that cause sedation and should avoid prescribing opioids to patients who are currently taking sedating medications. See *Appendix D*.
- The IHS strongly recommends utilizing the prescription drug monitoring program (PDMP) any time opioid therapy is being considered for any duration or quantity. IHS also recommends documenting that this was done, along with any significant PDMP findings. This is a requirement for all opioid prescriptions greater than 7 days.
- Medical history questionnaires should include questions about substance use, abstinence-based therapy, or medication-assisted therapy for opioid misuse. Review of medical history, including current and past substance use history, should occur at each dental visit.
- Surgical intervention to clean/remove the infected tissue is the standard of care for dental pain due to underlying infections, except when MRONJ is suspected.
- Adjunctive antibiotics and topical antiseptic mouth rinses may be indicated if the patient has persistent infection, increased swelling, cellulitis, malaise, fever, prolonged healing, significantly elevated blood glucose, or is significantly immunocompromised to address the pain associated with infection[38]. Postoperative pain lasting more than 3 days may be an indication of a postoperative infection.
- Pain that begins or increases 2-3 days postoperatively may be an indication of alveolar osteitis, which is best treated with the placement of medicament into the extraction site. Opioid medications are not indicated for the treatment of alveolar osteitis.
- Address pain control expectations of patients, with the goal of 30%-50% pain reduction. Patients should be educated that postoperative pain is often less than preoperative pain if infection or pulpal inflammation was present. A pain medication that was not effective prior to treatment may be sufficient postoperatively.
- Selection of post-procedural pain management agents should be guided by level of trauma to the tissue during the surgical intervention *(see Table 6)*, and medical contraindications. Risk of increased postoperative pain and complications are also associated with increases in time it takes to complete a surgical procedure.
- Elders (65+) may require dose reductions. APAP is usually the option and pain medications with shorter clearance times are generally recommended in this population.
- Extended-release / long-acting opioid formulations should not be used for acute dental pain[24,26].
- Dentists practicing in clinics attached to health centers and hospitals should consider utilizing urine drug screening whenever an opioid prescription is being considered and current drug or alcohol misuse is suspected.
- If opioid therapy is being considered, patients and/or guardians should be counseled on the risks of opioid therapy, including adverse effects and risk of misuse of opioid medications.
- Dentists should be knowledgeable about local substance use programs / resources and become comfortable referring patients to these programs and discussing patient resources.
- Dental programs should establish relationships with behavioral health resources within their communities and assist patients with accessing substance use behavioral health services.

Recommendations for Prescribing in the General Population:

- Preoperative pain management:
    - Using a single dose oral NSAID *(see Table 3)* 30-60 minutes prior to dental procedures may delay onset and reduce intensity of post-procedural pain, though contraindications and perioperative bleeding risks must be considered[39,40]. Preoperative analgesics interfere with peripheral mediator release and can block peripheral pain transmission.

- Consider the use of an antiseptic mouthwash to decrease preoperative bacterial loads, potentially reducing the risk of postoperative infection.
- Consider utilizing strategies to reduce patient anxiety / stress in anxious patients. Reducing patient anxiety can reduce pain perception and enhance local anesthesia.

- Postoperative pain management:
  - The use of long-acting local anesthetics (e.g. bupivacaine) immediately post-procedurally has also been shown to significantly reduce postoperative pain intensity, onset, and oral analgesic requirements necessary for adequate pain control[41-44].
  - Long-acting local anesthetics are contraindicated for children under 12 and pregnant women. Use with caution in elderly patients and take care to prevent local anesthetic overdoses when used in combination with other local anesthetics.
  - Utilize non-pharmacological pain management strategies for post-procedural pain management (ice packs, dietary restrictions, rest, etc.).
  - Post-procedural analgesic selection should be guided by procedure type, amount and duration of trauma, underlying cause of pain, anticipated pain scores, and contraindications.
  - For home management of post-procedural acute dental pain utilizing NSAIDs and/or APAP, consider scheduled analgesic dosing, rather than "as needed" for at least the first 24 hours postoperatively.
  - In general, most acute dental pain prescribing should be limited to 3-5 days. If prescribing an opioid in addition to an NSAID or APAP, consider prescribing the opioid for less days than NSAID or APAP, if appropriate.
  - General recommendations below are based on current literature and availability of formulations / dosages of NSAIDs and APAP at IHS and Tribal facilities. They do not take patient's individual medical conditions into account:

MILD PAIN: NSAIDs (e.g. ibuprofen 200-400 mg q6h) or APAP (500–650 mg q6h) should be utilized as the first line analgesic unless contraindicated.

MODERATE – SEVERE PAIN: NSAIDs (e.g. ibuprofen 400 mg q6h) + APAP (500-650 mg q6h) should be utilized as the first line analgesic unless contraindicated.

PAIN NOT CONTROLLED WITH NSAID + APAP: NSAIDs (e.g. ibuprofen 400 mg q6h) + APAP (325 mg q6h) + low-dose opioid (e.g. hydrocodone/APAP 5/325 mg q6h) should be utilized when first line therapies are not adequate.

→ *Caution patients not to exceed daily maximum dosages for APAP if utilizing additional over the counter medications that contain APAP.*

Recommendations for Prescribing to Special Populations:

- Preoperative pain management:
  - Preoperative NSAIDs should be avoided in patients with clotting disorders or taking anticoagulants. Standard precautions and contraindications regarding NSAIDs, as outlined below, should also be followed.
  - Consider the use of an antiseptic mouthwash without alcohol in patients with a history of substance use disorder to prevent relapse.
- Postoperative pain management:
  - Long-lasting anesthetics must be used with caution in patients where overall epinephrine use must be reduced due to systemic conditions such as[38]:
    - heart disease *(e.g. arteriosclerotic heart disease, cerebral vascular insufficiency, heart*

block, hypertension, hypotension, congestive heart failure, and use of blood pressure medications or vasopressors)
        - history of aneurysm or stroke
        - hyperthyroidism
        - medication use *(e.g. antipsychotics, catechol-O-methyltransferase inhibitors, corticosteroids, MAO inhibitors, non-selective beta-blockers, peripheral adrenergic antagonists, sedatives, tetracyclic antidepressants, and tricyclic antidepressants)*
        - seizures
    - Bupivacaine dosage should be reduced in patients with severe hepatic impairment, as bupivacaine is metabolized in the liver[45].

Allergy & Drug Intolerance [46]

- True medication allergies are caused by an immune response to a medication. Symptoms include rash, hives, or more severe symptoms such as anaphylaxis. For true medication allergies, agents from the same drug class should be avoided.
- Other reactions, such as generalized flushing, sweating, nausea, vomiting, and upset stomach, are considered pseudo-allergies or drug intolerances and can often be avoided if the medication is taken with food or by selecting an alternative agent in the same drug class.
- If a patient has multiple drug intolerances to analgesics being considered for postoperative pain management, consider the following:
    - Was the medication taken on an empty stomach?
    - How severe was the drug intolerance?
    - Has the patient previously tolerated other medications in the same class?
    - Can a medication, such as a PPI, be prescribed to alleviate or minimize side-effects?

Cardiovascular (CV) Disease & Hypertension [29-31,38,47-50]

- Patients with hypertension should be instructed to closely monitor their blood pressure and reduce their sodium intake when taking NSAIDs. NSAID duration should be limited to <5 days, if possible. If NSAIDs are deemed necessary, they should be prescribed at the lowest effective dosages and durations.
- As the risks of heart attack or stroke can occur in the first weeks of use, and the risks are greater at higher doses, consider reducing both dosage and duration of NSAID prescriptions, particularly in patients that already have cardiovascular risks (including previous heart attack, angina, congestive heart failure, procedures to widen clogged arteries, a stroke, or narrowed arteries to the brain). More moderate risk factors include history of systemic inflammatory disorder, age 60+, hypertension, hyperlipidemia, diabetes, and smoking.
- Exercise caution in prescribing NSAIDs within the first year after a patient has experienced a cardiovascular event, such as heart attack or stroke. Consider NSAID alternatives, like APAP, when appropriate or prescribing at NSAIDs at reduced dosages and durations.
- Naproxen and celecoxib appear to pose less cardiovascular risks than other NSAIDs and should be considered if NSAIDs are deemed necessary. However, all NSAIDs pose cardiac risks, even to patients without known risk factors. See *Tables 1-2* for assistance in selecting an NSAID based on CV risk factors.

Gastritis, Gastrointestinal Bleeding / Ulcer, Hiatal Hernia, Irritable Bowel Syndrome/Disease, Peptic Ulcer Disease, and Ulcerative Colitis [29,30,47-49,51]

- When possible, NSAIDs should be avoided.
- If NSAIDs are deemed necessary, use the lowest effective dose for the shortest duration of time and concomitantly prescribe a PPI or misoprostol. See *Tables 1-2* for assistance in selecting an NSAID

based on GI risk factors.

Gastric Bypass [52,53]

- For all gastric bypass patients, avoid NSAID use due to high risk of ulceration. If NSAID must be used, concomitant administration of a PPI or misoprostol is advised.
- For the first 2 months post-gastric bypass procedure, medications should be in liquid dosage form.
- Starting in month 3 post-gastric bypass procedure, tablet dosage forms smaller than an original M&M or Skittles candy are acceptable, otherwise liquid formulations are advised.

Alcohol Use Disorder [34,54,55]

- Limit APAP to 2 grams per day for patients currently consuming alcohol, as alcohol increases APAP toxicity risk, especially in patients that already have liver damage.
- Avoid opioids due to increased respiratory suppression and sedation.
- Consider using lower dosages of NSAIDs, or concomitantly prescribe a PPI or misoprostol, as NSAIDs + alcohol increases the risks of GI bleeding.

Liver Impairment [30,34,56-60]

- All liver impairment
  - NSAIDs - Avoid diclofenac and sulindac.
- Mild liver impairment *(Child-Pugh Class A)*
  - Short-term use of standard doses of all oral analgesics is likely safe.
- Moderate liver impairment *(Child-Pugh Class B, fibrosis, compensated cirrhosis)*
  - APAP - Total intake should be limited to 3 grams daily and is the preferred analgesic in this patient population. Avoid APAP if alcohol-associated hepatitis or acute liver injury is present.
  - NSAIDs - Low-doses may be used for the shortest possible duration. Recommend obtaining a medical consult prior to prescribing for patients with moderate liver impairment that also have kidney impairment or thrombocytopenia. NSAIDs should be avoided in patients with a history of gastrointestinal bleeding. Consider all comorbidities when selecting NSAID.
  - Opioids - If necessary, non-APAP containing opioid medications (i.e. tramadol) at the lowest effective dose with prolonged dosing intervals is preferred. Hydrocodone/APAP can be considered in patients with a history of seizures. Codeine should be avoided.
- Severe liver disease *(Child-Pugh Class C, decompensated cirrhosis with ascites or esophageal varices)*
  - APAP - Total intake should be limited to 2 grams daily and is the preferred analgesic in this patient population.
  - NSAIDs – Avoid use.
  - Opioids - Use should be avoided due to risk of adverse effects (i.e. sedation, respiratory depression) in patients at high risk of hepatic encephalopathy. If opioid therapy is necessary, use the lowest effective dose with prolonged dosing intervals. Tramadol is the preferred choice (if an opioid is deemed necessary) and opioid formulations containing APAP or codeine should be avoided.
- If concurrent alcohol use
  - APAP – Total intake should be limited to 2 grams per day for all patients with liver disease that are concurrently consuming alcohol.
  - Dentists should consider referral to treatment for patients with alcohol use disorders (CAGE questionnaire score ≥2 or AUDIT questionnaire score ≥8).

Figure 1: Recommended Pain Medication Dosing Based on Liver Disease Classification [30,34,56-60]

Pain Medication	Child-Pugh Class A	Child-Pugh Class B	Child-Pugh Class C	Additional Information*
APAP				
Acetaminophen – *No Alcohol Use*	500 mg q 4-6 hrs. *(4-6 x day)*		325-500 mg q 6 hrs. *(QID)*	*Avoid use in C-P Class B & C if alcohol-associated hepatitis or acute liver injury present.*
Acetaminophen – *Concurrent Alcohol Use*	325-500 mg q 6 hrs. *(QID)*			
NSAIDs				
Celecoxib	Normal Dosing	100 mg q 12 hrs. *(BID)*	Avoid	*Consider comorbidities when selecting NSAID (GI bleeding risks, CV risks, etc.).* *Avoid NSAID use in liver impaired patients with thrombocytopenia or significant renal impairment.* *Limit NSAIDS to < 5 days.*
Etodolac		400 mg q 12 hrs. *(BID)*		
Ibuprofen		400 mg q 8 hrs. *(TID)*		
Naproxen		200-275 mg q 12 hrs. *(BID)*		
OPIOIDs				
Hydrocodone/APAP	5/325 mg q 6 hrs. *(QID)*		Avoid	*Tramadol is safer option in C-P Class B patients without history of seizures. Can add 325mg q 6 hrs. to hydrocodone/APAP dosing.*
Tramadol	50 mg q 6-8 hrs. *(TID-QID)*	25 mg q 8-12 hrs. *(BID-TID)*	Avoid *(if possible)*	*Caution if patient taking SSRI or TCA. Avoid if history of seizures.*

**Additional dosing reductions may be warranted for patients with concurrent kidney impairment. Medical consult is recommended for patients with liver impairment and comorbidities.*

Anticoagulants & Platelet Disorders [29,30,47,58,61]

- Avoid NSAIDs in patients with platelet disorders (such as von Willebrand, abnormal platelet function from uremia, and thrombocytopenia) without consultation with the patient's provider.
- Scheduled APAP should be considered first line for mild postoperative pain and pre- operative pain control.
- Avoid preoperative NSAIDs.
- If low-dose daily aspirin (81 mg) is the only anticoagulant / antiplatelet medication the patient is taking, make sure the aspirin is taken at least 30 mins prior to taking an NSAID, or aspirin is taken at least 8 hours after NSAID, to allow the aspirin to properly reduce the risk of heart attack or stroke. NSAIDs are listed below in order of most likely to least likely to interfere with antiplatelet activity of aspirin:
    1. ibuprofen
    2. naproxen
    3. celecoxib
    4. diclofenac
- NSAIDs can irritate the GI mucosa resulting in an increased risk of GI bleeds and should be prescribed with extreme caution in patients taking anticoagulants or antiplatelet agents. If a postoperative NSAID is necessary, prescribe a PPI or misoprostol concomitantly to minimize GI irritation.

- If opioid or NSAID therapy must be used, utilize lowest dose for the shortest duration necessary to adequately manage acute pain[8].
- Consider topical tranexamic acid administration if perioperative bleeding is a concern.
- See *Appendix C* for a list of other common anticoagulant and antiplatelet medications for which NSAIDs can increase GI bleeding risks.

Benzodiazepine & Other Sedative Medications [54,62]

- Concurrent use of benzodiazepines and opioid medications should be avoided as both medication classes carry an FDA box warning outlining the increased risk of sedation, respiratory depression, and death when used concomitantly.
- If opioid therapy is necessary, the least potent opioid at the lowest dose sufficient to manage pain should be utilized and the day supply should not be in excess of the duration of pain expected. Also consider delaying opioid therapy as long as possible after benzodiazepine administration.
- If a pre-procedural benzodiazepine is indicated to manage patient's dental anxiety, limit benzodiazepine to a single administration of the lowest effective dose and utilize a benzodiazepine with a quick onset and short half-life such as:
    - alprazolam *(Xanax)* 0.25-0.5 mg
    - lorazepam *(Ativan)* 0.5 mg
- A medical consult may be warranted before prescribing an opioid to a patient taking a benzodiazepine, barbiturate, anxiolytic, sedative, or hypnotic medication. In some cases, it may be advisable for the patient to discontinue use of their sedating medication while taking an opioid medication.
- See *Appendix D* for a list of other common sedating medications for which opioid medications should be used with caution or avoided.

Other Medication Interaction Considerations [29,30,38,58,66]

- Alendronate - concomitant use with NSAIDs increases risk of gastric and esophageal ulcers. If NSAIDs are prescribed, concomitantly prescribe a PPI or misoprostol.
- Cyclosporine - there is a theoretical risk of kidney damage when cyclosporine and NSAIDs are taken concurrently. It is therefore recommended that dentists obtain a medical consult before prescribing NSAIDs.
- Diuretics - people with medical conditions that require diuretics (including heart failure, liver disease, and kidney damage) are at increased risk of developing kidney damage while taking NSAIDs. If NSAIDs are necessary, consider prescribing at a reduced dosage and duration.
- Lithium – concomitant use with NSAIDs can produce lithium toxicity. If NSAIDs must be used, consider contacting the prescribing physician to see if lithium dosage should be temporarily reduced.
- Methotrexate – low doses for conditions like arthritis are not of concern. If a patient is taking high doses of methotrexate for conditions like cancer, avoid NSAIDs, which can cause methotrexate toxicity.
- Phenytoin - concomitant use with NSAIDs can increase phenytoin levels. It is therefore recommended that dentists obtain a medical consult before prescribing NSAIDs.
- Selective Serotonin Reuptake Inhibitors (SSRIs) - concomitant use with NSAIDs increases risk of peptic ulcers. Avoid prescribing NSAID for > 4 days. Caution with tramadol, which can precipitate serotonin syndrome.

Chronic Pain Patients [10,24]

- Dentists should consider consulting with patient's chronic opioid prescriber prior to prescribing opioid

medications. Patients may have an agreement preventing the use of opioid medications from other sources, and prescribing additional opioids may violate the agreement.

- If opioid therapy is necessary for adequate pain control, higher doses of opioids or more frequent dosing intervals may be necessary for acute pain management.
- The risk of adverse effects from opioids, such as respiratory depression and death, likely outweigh any analgesic efficacy at doses ≥ 50 MMEs (morphine milligram equivalents) per day. Therefore, opioid therapy should be avoided for patients already prescribed opioids of ≥50 MMEs per day.

Substance Use Disorders [24]

- Dentists should consider screening, brief intervention, and referral to treatment (SBIRT) for patients with substance use disorders.
- Opioid medications should be avoided due to unknown interactions with illicit substances and propensity of opioid medications to contribute to dependence.
- Mouthwash without alcohol should be utilized (if indicated).

Abstinence-Based Treatment for Opioid Use Disorder [24]

- Mouthwash without alcohol should be utilized (if indicated).
- Opioid medications for pain management should be avoided as patients considered "opioid- naïve" are at higher risk for opioid overdose at smaller doses of opioid medications and could contribute to relapse of substance use.

Medication-Assisted Treatment for Opioid Use Disorder [24]

- Mouthwash without alcohol should be utilized (if indicated).
- Dentists should consider consulting with patient's medication-assisted treatment provider prior to prescription of opioid medications. Patients may have an agreement preventing the use of opioid medications from other sources and prescribing additional opioids may violate the agreement.
- If medication assisted treatment is opioid antagonist, opioid use should be avoided due to reduced efficacy. Opioid antagonists include:
    - buprenorphine/naloxone *(Bunavail, Suboxone, Zubsolv)*
    - bupropion/naltrexone *(Contrave)*
    - naloxone *(Kloxxado, Narcan, Rezenopy, Zimhi)*
    - naltrexone *(ReVia, Vivitrol)*
- Opioid agonists used for medication-assisted treatment have a half-life that is much longer than that of immediate release opioids. This leads to decreased efficacy of opioids used in the acute dental setting, but could contribute to greater risk of adverse effects. Opioids should be avoided in this population. If opioid therapy is necessary for adequate pain control, higher doses of opioids or more frequent dosing intervals are necessary for the treatment of acute pain, which leads to a substantially higher risk of overdose death. The risks of such medications likely outweigh the efficacy of opioids in this setting. Opioid agonists include:
    - buprenorphine *(Belbuca, Brixadi, Buprenex, Butrans, Probuphine, Subutex, Sublocade)*
    - buprenorphine/naloxone *(Bunavail, Suboxone, Zubsolv)*
    - methadone *(Dolophine, Methadose)*

➢ Naloxone is an opioid antagonist and buprenorphine is a partial agonist.

Pregnancy and Breastfeeding [34,45,63,64]

- APAP is the recommended first-line analgesic in pregnant women.
- Avoid the use of long-acting local anesthetics (use lidocaine only) in pregnant women.

- NSAIDs should be used minimally during 1st trimester and avoided after 20 weeks.
- Opioids should be avoided in pregnancy. If APAP alone does not adequately control pain, the patient's primary care provider or obstetrician should be consulted to discuss pain control options.
- Opioids, codeine, tramadol, and etodolac should be avoided. APAP, ibuprofen, diclofenac, and celecoxib are appropriate for use in lactating mothers. Naproxen should be avoided, if possible, due to its longer half-life.

Renal Impairment [29,30,34,59,60,65-70]

- Nonopioid analgesics are first-line therapies for pain management. APAP requires no dose adjustment and is generally safe in kidney disease. Short-acting NSAIDs are preferred over those with longer half-lives.
- Both NSAIDs and opioids can cause acute kidney injury (AKI) and prescribing should be based on stage of chronic kidney disease (CKD), estimated glomerular filtration rate (eGFR), glomerular filtration rate (GFR), creatinine clearance (CrCl), and AKI risks.
- For CKD stages 1 & 2 *[eGFR >60 mL/min.]* without AKI risk factors, NSAIDs can be prescribed as normal.
- For CKD stages 1 & 2 *[eGFR >60 mL/min.]* with other AKI risk factors, prescribe short-acting NSAIDs at the lowest effective dose for shortest duration (3-5 days).
- For CKD stage 3 *[eGFR 30 - 60 mL/min.]* without AKI risk factors, prescribe short-acting NSAIDs at the lowest effective dose for shortest duration (3-5 days).
- NSAIDs should be avoided if:
    - existing or recent AKI
    - CKD stages 1 & 2 *[eGFR >60 mL/min.]* when there is concurrent disease, such as cirrhosis, heart failure, or volume depletion
    - CKD stage 3 *[eGFR 30 - 60 mL/min.]* when there is concurrent disease, such as cirrhosis, heart failure, volume depletion, or diabetes
    - CKD stages 4 & 5 *[eGFR <30 mL/min.]*
    - CrCl <30 mL/min.
    - dialysis patients with residual kidney function
    - kidney transplant patient
    - nephrotic syndrome, regardless of GFR
    - prolonged intermittent kidney replacement therapy (PIKRT) patient
    - severe kidney disease with hypokalemia
- APAP and APAP/opioid combinations require prolonged dosing intervals in patients with significant renal impairment:
    - GFR = 10-50 mL/min/1.73m^2, limit dosing to q6h
    - GFR <10 mL/min/1.73m^2, limit dosing to q8h
- If an opioid is required, tramadol is the opioid of choice. It should, however, be reduced to 100 mg q12h if CrCl <30mL/min. Avoid use in patients with history of seizures and use with caution in patients taking SSRI or Tricyclic Antidepressant (TCA) medications. Oxycodone may be considered, if deemed necessary.
- Avoid codeine and hydrocodone for all patients with renal impairment.

➢ Risk factors for NSAID-induced AKI include: age >65, CKD, cirrhosis, congestive heart failure, hypercalcemia (severe), nephrotic syndrome, renal artery stenosis, volume depletion (vomiting, diarrhea, sepsis, hemorrhage), and use of some medications (including ACE inhibitors, angiotensin

receptor blocker, calcineurin inhibitors, and diuretics).

- Risk factors for opioid-induced AKI include: age >65, benign prostatic hypertrophy, CKD, chronic liver disfunction, volume depletion, and use of some medications (including anti-cholinergic agents).

Figure 2: Recommended NSAID Dosing for CKD Stage 3 Without Additional Risk Factors[67]

NSAID	$t_{1/2}$	Normal Dosing	Recommendations for CKD Stage 3 Dosing*
ACETIC ACID			
Diclofenac K	1-2	25 mg 4x/day	Reduce dose 3x/day
Diclofenac Na	1-2	50 mg 3x/day *(can do 100 mg loading dose)*	Reduce dose 2x/day *(no loading dose)*
Etodolac	7.3	400 mg 3x/day	Normal dose 1-2x/day
COX-2 INHIBITOR			
Celecoxib	11	400 mg loading dose then 200 mg 2x/day	Reduce dose 1-2x/day *(no loading dose)*
PROPIONIC ACID			
Ibuprofen	2	400 mg 4x/day	Normal dose 2x/day
Naproxen (base)	12-15	500 mg 2x/day	Reduced dose 1x/day
Naproxen Na	12-13	550 mg 2x/day	Reduced dose 1x/day

**Recommendations for CKD Stage 3 when CrCl >30 mL/min. and no recent AKI, no concurrent disease (such as cirrhosis, heart failure, volume depletion, diabetes), no hypokalemia, no nephrotic syndrome, and no concurrent use of nephrotoxic medications. These recommendations also do not apply to dialysis patients with residual kidney function, kidney transplant patients, or prolonged intermittent kidney replacement therapy patients. Medical consult is recommended for patients with liver impairment and comorbidities.*

Ventilation Impairment [24,62,71]

- Opioids cause respiratory suppression and can worsen respiratory conditions leading to dangerous respiratory suppression or death.
- Avoid opioids when ventilation is impaired by moderate to severe:
  - asthma
  - bronchitis
  - chronic obstruction pulmonary disease
  - emphysema
  - sleep apnea
- Avoid most NSAIDs in patients with aspirin-sensitive asthma. Celecoxib 200mg can be utilized.

Tables 1-2. NSAID Risks and Safety Profiles [30,47,60,61,72,73]

Table 1: NSAID CV & GI SAFETY COMPARISIONS

DRUG	COX-2 Selectivity	GI Bleed / Ulcer Risk	CV Risk
ACETIC ACID - NSAIDS			
Diclofenac Na	**High**	**Low**	**Highest**
Etodolac	**Highest**	**Moderate**	**Highest**
COX-2 INHIBITOR - NSAIDS			
Celecoxib	**Higher**	**Lowest**	**Lowest**
PROPIONIC ACID - NSAIDS			
Ibuprofen	**Lowest**	**Moderate**	**Moderate**
Naproxen	**Low**	**Highest**	**Low**

Table 2: NSAID DECISION MATRIX BASED ON PATIENT CV AND GI RISKS

Risk	Low GI risk	Moderate GI risk	High GI risk
Low CV risk	Choose NSAID based on other risk factors & patient tolerance	1. Celecoxib alone 2. Ibuprofen + PPI or misoprostol	1. Avoid NSAIDs if possible 2. Celecoxib + PPI or misoprostol
High CV risk	• Naproxen or low-dose celecoxib • If on aspirin, naproxen + gastroprotection medication	1. Naproxen + PPI or misoprostol 2. Low-dose celecoxib	Avoid NSAIDs if possible

- *If PPI or misoprostol are not viable options for gastroprotection, a double-dose H2-blocker can be utilized, although it provides less overall gastroprotection.*
- *Risk factors for an NSAID-associated GI event includes male gender, history of peptic ulcer, H-pylori infection, dyspepsia, and CV disease, age >65, and use of antiplatelets, anticoagulants, corticosteroids, SSRIs, or high NSAID doses.*
- *All risks increase as dose and duration of NSAIDs increase. For NSAID prescribing at lower-moderate doses at the recommended 3 days or less duration, NSAID related risks are significantly lower than chronic or high-dose prescribing.*

Table 3. Recommendations for Pre-Procedural Acute Dental Pain Management *(General Population)* [74]

Table 3: PRE-OP ANALGESICS RECOMMENDATIONS

Preoperative Medications	Recommended Dose	Timing
Acetaminophen	500-650 mg	30 mins. prior to procedure
Celecoxib	400 mg	30 mins. prior to procedure
Diclofenac K	25 mg	30 mins. prior to procedure
Ibuprofen	400 mg	30 mins. prior to procedure
Naproxen Na	550 mg	30 mins. prior to procedure
Diclofenac Na	100 mg	1 hr. prior to procedure
Naproxen (base)	500 mg	1 hr. prior to procedure

- *NSAIDs list is not all-inclusive; NSAID selection should be guided by patient-specific factors, and individual facility protocols and medication formulary.*

Tables 4-6. Recommendations for Post-Procedural Acute Dental Pain Management *(General Population)* [26,30,74-78]

Table 4: COMMON POST-OP NSAIDs FOR ACUTE DENTAL PAIN

NSAID	Recommended Dose	Max Daily Dose	Tp *(hours)*	t 1/2 *(hours)*	Analgesic Onset *(hours)*	Analgesic Duration *(hours)*
ACETIC ACIDS						
Diclofenac K	25 mg q6h	200 mg	1	1-2	0.5	4-6
Diclofenac Na *(immediate release)*	50 mg q8h *(can do 100 mg loading dose)*	150 mg	2-3	1-2	1	4-6
Etodolac	400 mg q8h or 200 mg q6h	1,200 mg	1-2	7.3	0.5	4-12
COX-2 INHIBITOR						
Celecoxib	400 mg loading dose then 200 mg q12h	600 mg, then 400 mg	3	11	0.5	up to 12
PROPIONIC ACIDS						
Ibuprofen	400 mg q6h	3,200 mg	1-2	1.8-2	0.5	4-6
Naproxen (base)	500 mg q12h or 250 mg q6h *(can do 500 mg loading dose if utilizing 250 mg dosing)*	1,000 mg	2-4	12-15	1	8-12
Naproxen Na	550 mg q12h or 275 mg q6h	1,100 mg	1-2	12-13	1	8-12

- *NSAIDs listed are not all-inclusive; NSAID selection should be guided by patient-specific factors, and individual facility protocols and medication formulary.*
- *Must factor in when preoperative analgesics were taken when counseling patient on when to start postoperative medications.*

Table 5: COMMON POST-OP OPIOIDS FOR ACUTE DENTAL PAIN

Opioid	Recommended Dose	Morphine Equiv. Dose
Hydrocodone / Acetaminophen	5 mg / 325 mg q6h	5 mg per dose
Oxycodone / Acetaminophen	5 mg / 325 mg q6h	7.5 mg per dose
Tramadol**	50-100 mg q6h	10-20 mg per dose

***Tramadol (utilized without NSAID or APAP) is usually dosed at 100mg q8h or q6h for moderate - severe dental pain, unless patient is an elder or has medical contraindication that warrant a reduced dose.*

- *Opioids listed are not all- inclusive; opioid selection should be guided by patient-specific factors, individual facility protocols, and medication formulary.*

Table 6: POST-OP PAIN MEDICATION DOSING RECOMMENDATIONS BASED ON ANTICIPATED PAIN LEVELS

	Mild – Moderate Pain *(i.e. mild-moderate trauma / inflammation)*	**Moderate – Severe Pain** *(i.e. significant trauma / inflammation)*	**Pain NOT Managed with NSAID+APAP**
1st line therapy	Ibuprofen 200-400 mg q6h **or alternative NSAID** **or** Acetaminophen 325-650 mg q6h ---------- *2-3 day supply – scheduled dosing intervals*	Ibuprofen 400 mg q6h **or alternative NSAID** **and** Acetaminophen 500-650 mg q6h ---------- *3 day supply – scheduled dosing intervals*	Ibuprofen 400 mg q6h **or alternative NSAID** **and** Acetaminophen 325 mg q6h **and** Hydrocodone/APAP 5/325 mg q6h **or alternative opioid** ---------- *2-3 day supply - opioid PRN with scheduled NSAID+APAP dosing*
If inadequate pain control	NSAID + APAP	Consider switching to a different class NSAID **or** ↓ APAP to 325 mg + Hydrocodone/APAP 5/325 mg q6h **or alternative opioid** ---------- *1-2 day supply opioid PRN with scheduled NSAID+APAP dosing*	Consider switching to a different class NSAID **and/or** Ask patient to return to clinic for re-evaluation
NOTE: Acetaminophen dosage from all sources should not exceed 3,000 mg daily if patient unmonitored / 4,000 mg if monitored			

APPENDIX A:

American Dental Association Statement on the Use of Opioids in the Treatment of Dental Pain

- When considering prescribing opioids, dentists should conduct a medical and dental history to determine current medications, potential drug interactions and history of substance abuse.
- Dentists should follow and continually review CDC and State Licensing Boards recommendations for safe opioid prescribing.
- Dentists should register with and utilize prescription drug monitoring programs (PDMP) to promote the appropriate use of controlled substances for legitimate medical purposes, while deterring the misuse, abuse and diversion of these substances.
- Dentists should have a discussion with patients regarding their responsibilities for preventing misuse, abuse, storage and disposal of prescription opioids.
- Dentists should consider treatment options that utilize best practices to prevent exacerbation of or relapse of opioid misuse.
- Dentists should consider nonsteroidal anti-inflammatory analgesics as the first-line therapy for acute pain management.
- Dentists should recognize multimodal pain strategies for management for acute postoperative pain as a means for sparing the need for opioid analgesics.
- Dentists should consider coordination with other treating doctors, including pain specialists, when prescribing opioids for management of chronic orofacial pain.
- Dentists who are practicing in good faith and who use professional judgment regarding the prescription of opioids for the treatment of pain should not be held responsible for the willful and deceptive behavior of patients who successfully obtain opioids for non-dental purposes.
- Dental students, residents and practicing dentists are encouraged to seek continuing education in addictive disease and pain management as related to opioid prescribing.

ADA House of Delegates Adopted: October 2016
https://www.ada.org/about/governance/current-policies#substanceusedisorders

APPENDIX B:

Dental Specific Resources -- Acute Dental Pain Management & Opioid Stewardship

- **Indian Health Service - Dental Opioid Stewardship Initiatives & IHS ETPA Training Link (2025)**
  Dental Portal | Indian Health Service

- **Required Training for DEA Licensed Dentists (2025)**
  MATE_Training_Letter_Final.pdf

- **CDC – Dental Pain Care**
  Dental Pain Care | Overdose Prevention | CDC

- **American Dental Association - Acute Dental Pain Management Guidelines (2023/2024)**
  Acute Dental Pain Management Guideline | American Dental Association

- **American Dental Association – Opioid Education for Dentists (2024)**
  Opioid Education for Dentists - How Dentists Prescribe Opioids | American Dental Association

- **American Academy of Pediatric Dentistry - Pain Management in Infants, Children, Adolescents and Individuals with Special Health Care Needs (2022)**
  BP_Pain.pdf

- **American Association of Oral and Maxillofacial Surgeons - Opioid Prescribing: Acute and Postoperative Pain Management White Paper (2024)**
  opioid_prescribing.pdf

- **Association of State and Territorial Dental Directors - Policy Statement: Reducing Opioid Prescribing by Oral Health Professional (2021)**
  reducing-opioid-prescribing-by-oral-health-professionals.pdf

- **National Maternal and Child Oral Health Resource Center – Opioids and Pain Management Resources for Oral Health Professionals (2022)**
  Opioid | OHRC

- **Department of Veterans Affairs - Alternatives to Opioids for Acute Pain Management after Dental Procedures Consensus Paper (2021)**
  Alternatives to opioids for acute pain management after dental procedures: A Department of Veterans Affairs consensus paper - ScienceDirect

➔ **Also reference your state dental board's guidelines on opioid prescribing and CDE requirements.**

Please note, if the link no longer works, please copy and paste the title of the document you wish to access into your browser search to find the document.

APPENDIX C:

Common Anticoagulants and Antiplatelet Medications

Anticoagulants

1. apixaban *(Eliquis)*
2. bivalirudin *(Angiomax)*
3. dabigatran *(Pradaxa)*
4. edoxaban *(Savaysa)*
5. enoxaparin *(Clexane, Levenox)*
6. fondaparinux *(Arixtra)*
7. heparin *(Hep-Lock, Hep-Pak)*
8. rivaroxaban *(Xarelto)*
9. warfarin *(Coumadin, Jantoven)*

Antiplatelet Medications

1. anagrelide *(Agrylin)*
2. aspirin
3. cilostazol *(Pletal)*
4. clopidogrel *(Plavix)*
5. pentoxifylline *(Pentoxil, Trental)*
6. prasugrel *(Effient)*
7. ticagrelor *(Brilinta)*

APPENDIX D:

Common Benzodiazepines, Barbiturates, Anxiolytics, Sedatives, and Hypnotics

Benzodiazepines

1. alprazolam *(Niravam, Xanax, Xanax XR)*
2. chlordiazepoxide *(Librium, Libritabs, Poxi, Mitran,)*
3. clonazepam *(KlonoPIN)*
4. diazepam *(Valium)*
5. estazolam *(Prosom)*
6. lorazepam *(Ativan, Loreev)*
7. midazolam *(Nayzilam, Seizalam, Versed)*
8. oxazepam *(Serax)*
9. temazepam *(Restoril)*
10. triazolam *(Halcion)*

Barbiturates

1. butalbital *(ingredient in headache medications)*
2. mephobarbital *(Mebaral)*
3. pentobarbital *(Nembutal)*
4. phenobarbital *(Donnatal, Luminal, Sezaby, Solfoton)*
5. primidone *(Mysoline)*

Miscellaneous Anxiolytics, Sedatives, and Hypnotics

1. buspirone *(BuSpar, Vanspar)*
2. carisoprodol *(Soma, Vanadom)*
3. chloral hydrate *(Somnote)*
4. cyclobenzaprine *(Amrix, Fexmid, Flexeril, Tabradol)*
5. daridorexant *(Quviviq)*
6. diphenhydramine *(ingredient in allergy and cold medicines)*
7. doxepin *(Silenor)*
8. doxylamine *(ingredient in sleep aid medications like Nytol, Unisom, etc.)*
9. eszopiclone *(Lunesta)*
10. hydroxyzine *(ANX, Atarax. Hyzine, Rezine, Vistaject, Vistaril)*
11. lemborexant *(Dayvigo)*
12. melatonin
13. meprobamate *(Equanil, Miltown)*
14. oxybate *(Lumryz, Xyrem, Xyway)*
15. paraldehyde
16. ramelteon *(Rozerem)*
17. suvorexant *(Belsomra)*
18. tasimelteon *(Hetlioz)*
19. tryptophan *(Aminomine, Tryptan)*
20. zaleplon *(Sonata)*
21. zolpidem *(Ambien, Edluar, Intermezzo, Zolpimist)*

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