

# **DENTAL GUIDELINE ON PRESCRIBING OPIOIDS FOR ACUTE PAIN MANAGEMENT**

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Developed by the Dr. Robert Bree Collaborative and Washington State Agency Medical Directors' Group (AMDG)\* in collaboration with Actively Practicing Dentists and Public Stakeholders

*Written for Clinicians  
Who Care for Patients  
with Dental Pain  
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# Prescribing Opioids for Acute Dental Pain

## Introduction

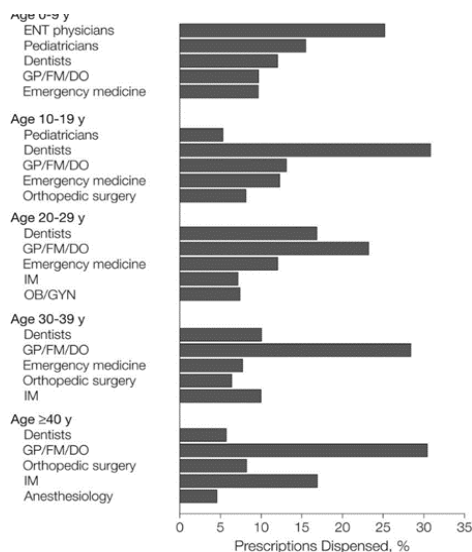
This guideline was developed in collaboration with a broad advisory group of the state's academic leaders, pain experts, and dentists in general care and specialty areas in response to the growing epidemic of opioid-related overdoses and supplements the Agency Medical Director's Group (AMDG) Interagency Guideline on Prescribing Opioids for Pain. The guideline is based on the best available clinical and scientific evidence from the literature and a consensus of expert opinion.

This is an easy-to-use reference to help dentists, oral surgeons, and others follow a set of clinical recommendations and access supporting evidence and resources in the appendices to align opioid prescribing with current evidence. We recommend revising office-prescribing practices as necessary to be consistent with this guideline, the American Dental Association (ADA) statement, and the Centers for Disease Control and Prevention (CDC) guideline. We also recommend considering the feasibility of embedding key practices from these guidelines into electronic health record systems. Lastly, we recommend educating office staff and patients about the risks and benefits of opioids, individualizing pain management strategies for each patient's clinical situation, and avoiding "just in case" prescribing.

## Dentists Play a Critical Role

The United States is experiencing a dramatic increase in prescription (both prescribed and for non-medical use) opioid overdose deaths, primarily among 35-55 year olds.<sup>1,2</sup> The majority of new heroin users start out with prescribed opioids.<sup>3</sup> While the exact number of opioids consumed postoperatively is unclear, substantial amounts are leftover to be later reused, shared among friends and family, or abused non-medically.<sup>4,5</sup>

Figure 1: Percentage of Prescriptions Dispensed for Opioid Analgesics from Outpatient US Retail Pharmacies by Age and Physician Specialty, 2009



Among prescribers of opioids for adolescents, dentists are proportionately the most prevalent prescribers (Fig 1).<sup>6</sup> This is consistent with the Department of Health's assessment of acute opioid prescriptions in youth using the Prescription Monitoring Program data between July and December 2015.<sup>7</sup> Dentists write approximately 31% of opioid prescriptions for patients between 10 to 19 years.<sup>8</sup> An estimated 56 million tablets of 5 mg hydrocodone are prescribed after third molar extractions each year in the United States.<sup>8</sup> High schoolers who receive an opioid prescription are 33% more likely than those who do not receive a prescription to misuse opioids between the ages of 18 and 23 years.<sup>9</sup> Data shows an upsurge in heroin-related deaths among 18 to 25 year olds.<sup>1,2</sup> Therefore, dental providers could play a critical role in minimizing opioid exposure for vulnerable young people by reducing the number of opioid tablets prescribed for common procedures such as extractions.

In response to the release of the 2016 CDC opioid guidelines, which recommended limiting the duration of opioid prescriptions for acute pain, Dr. Paul Moore, speaking for the American Dental Association Council on Scientific Affairs, said, "For dental practitioners, the importance of these recommendations should be carefully considered . . . Every year, millions of adolescents receive their first introduction to opioids following the extraction of their third molars. Many of these young adults may have never received these centrally-acting analgesics before in their lives. We have a special responsibility to counsel them about their dangers and educate them about their safe use of opioids when taken for acute postoperative pain."<sup>10</sup>

**Approximately 37% of nonmedical opioid use by high school seniors came from their leftover opioid prescription.<sup>4</sup>**

## Clinical Recommendations

Acute pain management poses many challenges to providers regarding treatment decisions, improving quality of recovery, and identifying patients at risk for poor pain management or uncontrolled pain. Assessing patients and proposing pain management plans that minimize risk while optimizing benefits is incumbent on providers. Good practice involves skilled initial patient assessment, individualized pain management strategies, effective intervention, and re-assessment as necessary. In those rare instances when opioids are prescribed for chronic orofacial pain, providers should follow the best practices in the AMDG Interagency Guideline on Prescribing Opioids for Pain.

### Preoperative Period

1. Conduct a thorough evaluation including a patient interview with dental and medical history. Screen for past or current use of opioids and benzodiazepines, sedative-hypnotics, or anxiolytics. See [Appendix A](#) for list of benzodiazepines, sedative-hypnotics, and anxiolytics.
  - a. Check the [Prescription Monitoring Program](#) (PMP) for every patient for whom you write a prescription for opioids to be aware of prior or concurrent prescriptions of opioids or sedatives. This is especially critical for patients who report a history of chronic opioid or sedative use. Please note, in Washington, you can delegate licensed staff in your office to check the PMP ([AMDG Interagency Guideline on Prescribing Opioids for Pain](#), Appendix C: How to use the Prescription Monitoring Program).
  - b. Ask if the patient is currently being or has been previously prescribed chronic opioids. If so, coordinate with the pain management provider before prescribing opioids.
2. Prescribe non-opioid analgesics as the FIRST line of pain control for dental procedures.
  - a. Prescribe combinations of non-steroidal anti-inflammatory drugs (NSAIDs) and acetaminophen following dental procedures where post-operative pain is anticipated, unless there are contraindications:
    - i. NSAIDs contraindications include, but are not limited to: known hypersensitivity to the drug, history of gastrointestinal bleeding, and aspirin sensitivity asthma.
    - ii. Acetaminophen contraindications include, but are not limited to: severe liver disease, known hypersensitivity to the drug,
    - iii. Adjust dose or duration and monitor for patients with hepatic or renal impairment or drug-to-drug interactions and consumption of more than two to three alcohol-containing drinks per day.
    - iv. Consider a selective cyclooxygenase-2 inhibitor (e.g., celecoxib) for patients at risk for bleeding (e.g., on anticoagulation therapy).
  - b. Advise patients not to take multiple acetaminophen-containing preparations concomitantly. Refer patients to the FDA's [Taking Acetaminophen Safely](#) video.
3. Consider pre-surgical medication, such as an NSAID, one hour immediately prior to procedure, except where contraindicated.

4. If use of an opioid is warranted, follow the CDC guidelines: *“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.”*
  - a. Prescribe opioids IN COMBINATION with first-line therapy. Avoid multiple acetaminophen-containing preparations concomitantly.
  - b. For adolescents and young adults through 24 years old who are undergoing minor surgical procedures (e.g., third molar extractions), limit opioid prescriptions to 8-12 tablets.
  - c. Codeine and tramadol are contraindicated in children younger than 12 due to variability in metabolism. The use of codeine and tramadol should also be avoided in those aged 12-17. See FDA warning [here](#).
  - d. Avoid prescribing opioids in combination with benzodiazepines, sedative-hypnotics, or anxiolytics. See [Appendix A](#) for a list of benzodiazepines, sedative-hypnotics, and anxiolytics.
5. Avoid opioids when:
  - a. Patient or parent specifically requests **NO** opioid prescriptions.
  - b. Patient is in recovery from a substance use disorder but at high risk of relapse. See [Appendix C](#) for special considerations for patients with substance use disorder.
6. Educate the patient and family on appropriate use and duration of opioids in a language and at a level (e.g., 8<sup>th</sup> grade reading level) that they can understand.
  - a. Review possible adverse effects of opioids, including the sensation of drug craving. Remind them of the dangers of prescription opioid diversion and the importance of secure storage of their medications.
  - b. Share information on prompt disposal of leftover opioids through [community-based drug take back programs](#), a [DEA-approved take back program](#), or FDA guideline for [safe disposal of medicine](#).
  - c. Advise the patient to avoid combining opioids with benzodiazepines, sedative-hypnotics, anxiolytics, or other central nervous system depressants, including alcohol. These combinations exponentially (not just additively) increase risk for dangerous respiratory depression.

### **Intraoperative Period**

1. Use pre-emptive analgesia where indicated. Consider long-acting local anesthetic injections (bupivacaine + epinephrine 1:200,000) unless contraindicated.

## Postoperative Period

1. Prescribe non-opioid analgesics as the FIRST line of pain control for dental procedures.
  - a. Prescribe combinations of non-steroidal anti-inflammatory drugs (NSAIDs) and acetaminophen following dental procedures where post-operative pain is anticipated unless there are contraindications:
    - i. NSAIDs contraindications include, but are not limited to: known hypersensitivity to the drug, history of gastrointestinal bleeding, and aspirin sensitivity asthma.
    - ii. Acetaminophen contraindications include, but are not limited to: severe liver disease, known hypersensitivity to the drug.
    - iii. Adjust dose or duration and monitor for patients with hepatic or renal impairment or drug-to-drug interactions and consumption of more than two to three alcohol-containing drinks per day.
    - iv. Consider a selective cyclooxygenase-2 inhibitor (e.g., celecoxib) for patients at risk for bleeding (e.g., on anticoagulation therapy).
  - b. Advise patients not to take multiple acetaminophen-containing preparations concomitantly. Refer patients to FDA's [Taking Acetaminophen Safely](#) video.
2. If use of an opioid is warranted, follow the CDC guidelines: *"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."*
  - a. Prescribe opioids IN COMBINATION with first-line therapy. Avoid multiple acetaminophen-containing preparations concomitantly.
  - b. For adolescents and young adults through 24 years old who are undergoing minor surgical procedures (e.g., third molar extractions), limit opioid prescriptions to 8-12 tablets.
  - c. Codeine and tramadol are contraindicated in children younger than 12 due to variability in metabolism. The use of codeine and tramadol should also be avoided in those aged 12-17. See FDA warning [here](#).
  - d. Avoid prescribing opioids in combination with benzodiazepines, sedative-hypnotics, or anxiolytics. See [Appendix A](#) for a list of benzodiazepines, sedative-hypnotics, and anxiolytics.
3. Dentists should recognize multimodal pain strategies (e.g., ice) for management of acute postoperative pain as a means for sparing the need for opioid analgesics.

4. Educate the patient and family on appropriate use and duration of opioids in a language and at a level (e.g., 8<sup>th</sup> grade reading level) that they can understand.
  - a. Review possible adverse effects of opioids, including the sensation of drug craving. Remind them of the dangers of prescription opioid diversion and the importance of secure storage of their medications.
  - b. Share information on prompt disposal of leftover opioids through [community-based drug take back programs](#), a [DEA-approved take back program](#) or FDA guideline for [safe disposal of medicine](#).
  - c. Advise the patient to avoid combining opioids with benzodiazepines, sedative-hypnotics, anxiolytics, or other central nervous system depressants, including alcohol. These combinations exponentially (not just additively) increase risk for dangerous respiratory depression.

## Evidence

Opioids are efficacious analgesics for severe acute pain and are widely used for this purpose. However, opioids do not have anti-inflammatory properties, so non-opioid analgesics (e.g., NSAIDs) can be a better first choice for pain relief.<sup>11</sup> In addition, opioids carry many risks, including physical tolerance, dependence, addiction, and overdose.<sup>12</sup> That patients do not use or need most of the opioids prescribed for acute pain is clear.<sup>4,5</sup> Children undergoing minor medical procedures other than dental extractions had the majority of initially prescribed opioid doses leftover by day four.<sup>13</sup> For example, an average of 52 opioid tablets are dispensed after tonsillectomy and an average of 44 tablets go unused. Often, these leftover opioid tablets are later misused for non-medical purposes.<sup>4</sup> Even in the case of common major elective surgeries, the majority of currently prescribed post-operative opioids go unused; as few as five-15 tablets sufficed for 80% of patients after physician education led to substantial reductions in prescribed doses.<sup>14</sup> Although it is not known exactly how many opioid doses taken during acute pain episodes may lead to increased risk of dependence or subsequent misuse, a recent observational study using a large commercial database suggests that even a few days of opioids can increase risk. The risk of being on opioids at one year increases about one percent for each day of opioid supplied, starting with a three days' supply of an initial prescription.<sup>15</sup>

Prudent practice encourages the prevention of pain, where possible, by administering non-opioid analgesics before pain occurs. Efficacy is seen with preemptive and concurrent use of NSAIDs and acetaminophen, around the clock for as many days as necessary. In some studies, analgesic regimens using NSAIDs and acetaminophen have demonstrated pain relief comparable to hydrocodone/acetaminophen 5/325mg.<sup>16</sup> Moore and Hersh, in a systematic review of the evidence for dental extractions, concluded that, *“the ibuprofen-APAP combination may be a more effective analgesic, with fewer untoward effects, than are many of the currently available opioid-containing formulations.”*<sup>17</sup> These authors also concluded that the ibuprofen-acetaminophen combination is more effective than either drug alone. Another systematic review of analgesic efficacy to treat pain of endodontic origin recommends NSAIDs as the drug class of choice for pain of endodontic origin as long as there is no contraindication for such use.<sup>18</sup> Moderate evidence supports use of pre-operative NSAIDs to reduce inflammation and post-operative analgesic requirements.<sup>19,20</sup> Providers should be aware that NSAIDs and acetaminophen also have potential for serious adverse outcomes.<sup>21,22</sup>

If use of an opioid for acute pain is warranted, *“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.”*<sup>23</sup> The specific recommendation for adolescents and young adults is based on emerging evidence that two thirds of all patients receiving opioids for third molar extractions are 14 to 24 years old,<sup>24</sup> there is a three-fold variation in the amounts prescribed,<sup>24</sup> and substantial proportions are left unused and available for subsequent misuse.<sup>4,9</sup> Because the developing brain is at increased risk for addiction, limiting opioid exposure to the shortest duration is very important in this population.<sup>25,26</sup> The ADA recommends reviewing the CDC recommendations for safe opioid prescribing<sup>27</sup> (see [Appendix B](#)), and the Bree Collaborative AMDG Opioid Prescribing Guideline Implementation workgroup emphasizes its importance, given the vulnerability of this population.

Providers should be aware that the Food and Drug Administration approved tramadol and single-ingredient codeine only for use in adults. Both opioid containing products are contraindicated in children younger than 12 years due to the risk of serious breathing problems in some children with ultra-rapid metabolism.<sup>28</sup> Providers should also limit use in adolescents between 12 and 18.<sup>29</sup>

Providers should check the Washington State [Prescription Monitoring Program](#) (PMP; also called the Prescription Drug Monitoring Program or PDMP in other states) for every patient before prescribing opioids to be certain there have been no prior or concurrent prescriptions of opioids or sedatives. This is strongly recommended by both the CDC Guideline for Prescribing Opioids for Chronic Pain<sup>23</sup> and by the AMDG Interagency Guideline on Prescribing Opioids for Pain.<sup>30</sup> Per McCauley et al, *“a notable minority of dental patients had incidents of multiple preexisting opioid prescriptions, a factor implicated in patient misuse, abuse, overdose and diversion.”*<sup>31</sup> Recent data suggests that in New York, which has implemented a mandatory PDMP program, there have been substantial reductions in opioid prescriptions and increases in non-opioid analgesic therapy among dental prescribers. Among patients receiving pain medications in dental practice, 30.6% received an opioid prior to mandatory PMP implementation, while this number dropped to 14.1% and 9.6% in the two three-month periods following implementation.<sup>25</sup> This recommendation is also consistent with the ADA February 2017 Statement on the Use of Opioids in the Treatment of Dental Pain: *“Dentists should register with and utilize the prescription drug monitoring program to promote the appropriate use of controlled substances for legitimate medical purposes, while deterring the misuse, abuse and diversion of these substances.”*<sup>27</sup> See [Appendix B](#) for the full list of ADA recommendations.



## Appendix A: Benzodiazepines, Sedative-hypnotics, and Anxiolytics

- **Benzodiazepines**
  - Alprazolam
  - Chlordiazepoxide
  - Clonazepam
  - Clorazepate
  - Diazepam
  - Estazolam
  - Flurazepam
  - Lorazepam
  - Midazolam
  - Oxazepam
  - Quazepam
  - Temazepam
  - Triazolam
- **Barbiturates**
  - Butabarbital
  - Butalbital
  - Mephobarbital
  - Phenobarbital
  - Secobarbital
- **Skeletal muscle relaxants**
  - Carisoprodol
- **Non-benzodiazepine hypnotics**
  - Chloral Hydrate
  - Eszopiclone
  - Meprobamate
  - Suvorexant
  - Zaleplon
  - Zolpidem

## Appendix B: American Dental Association Statement on the Use of Opioids in the Treatment of Dental Pain

1. When considering prescribing opioids, dentists should conduct a medical and dental history to determine current medications, potential drug interactions and history of substance abuse.
2. Dentists should follow and continually review Centers for Disease Control and State Licensing Boards recommendations for safe opioid prescribing.
3. Dentists should register with and utilize a prescription drug monitoring program (PDMP) to promote the appropriate use of controlled substances for legitimate medical purposes, while deterring the misuse, abuse and diversion of these substances.
4. Dentists should have a discussion with patients regarding their responsibilities for preventing misuse, abuse, storage, and disposal of prescription opioids.
5. Dentists should consider treatment options that utilize best practices to prevent exacerbation of or relapse of opioid misuse.
6. Dentists should consider nonsteroidal anti-inflammatory analgesics (NSAIDs) as the first-line therapy for acute pain management.
7. Dentists should recognize multimodal pain strategies for the management of acute postoperative pain as a means of sparing the need for opioid analgesics.
8. Dentists should consider coordination with other treating doctors, including pain specialists, when prescribing opioids for management of chronic orofacial pain.
9. 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.
10. 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*

## Appendix C: Special Considerations for Patients with Substance Use Disorder

**Patients with substance use and/or psychiatric disorders are more likely to have complications from opioid use, such as misuse, abuse or overdose.<sup>32</sup>**

1. Help patients prevent opioid misuse or relapse by prescribing opioids only when indicated, and avoid opioids at patient request. Support patients who have made a commitment to a drug-free lifestyle and take precautions when considering prescribing opioids.
2. Use validated instruments to assess predictors of suboptimal recovery, such as depression, fear avoidance, and catastrophizing, which can lead to persistent pain and functional limitation. Instruments are available [here](#).
3. Be knowledgeable of community resources for treatment of substance use disorders and be prepared to make referrals: [Washington Recovery Help Line](#).
4. Complete the ADA opioid continuing education (CE) webinar and review educational materials on managing dental pain:
  - a. Safe Opioid Prescribing for Acute Dental Pain. Two-hour CE class from Boston University: [www.opioidprescribing.com/dental](http://www.opioidprescribing.com/dental)
  - b. Advancing Pain Management in Oregon. Online training from the Pain Management Commission of the Oregon Health Authority: [www.oregon.gov/oha/OHPR/PMC/Pages/index.aspx](http://www.oregon.gov/oha/OHPR/PMC/Pages/index.aspx)
  - c. American Dental Association statement on use of opioids in the treatment of dental pain (See **Appendix B**).
  - d. Specialists should follow additional guidelines from their specialty associations (e.g., AAPD, AAP, AAOMS, AAE).
5. Consult with the treating addiction specialist if the patient is in active treatment for substance use disorder and coordinate before prescribing opioids. Evidence based care for opioid use disorder (addiction) includes medication-assisted treatment (e.g., methadone, buprenorphine-naloxone).
6. Contact the Substance Abuse and Mental Health Services Administration (SAMHSA)'s [Providers' Clinical Support System for Opioids \(PCSS-O\)](#) and [Medication Assisted Treatment \(PCSS-MAT\)](#) for treatment issues. Expert mentors are available to assist with questions or concerns about opioids and treatment of substance use disorders.
7. Support patients who are in successful long-term recovery from a previous substance use disorder of any kind (e.g., alcohol, opioids, heroin, methamphetamine) and have committed to a drug-free lifestyle.
  - a. Avoid "just in case" opioid prescriptions.
  - b. If severe post-operative pain is expected, take special precautions in providing opioids. For example, involve a family member, 12-step program sponsor, or addiction counselor in medication administration, and advise increasing attendance at meetings and/or counseling sessions during the post-operative period.

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## References

1. Rudd RA. Increases in Drug and Opioid-Involved Overdose Deaths—United States, 2010–2015. *MMWR Morbidity and Mortality Weekly Report* 2016;65.
2. Compton WM, Jones CM, Baldwin GT. Relationship between nonmedical prescription-opioid use and heroin use. *New England Journal of Medicine* 2016;374:154-63.
3. Cicero TJ, Ellis MS, Surratt HL, Kurtz SP. The changing face of heroin use in the United States: a retrospective analysis of the past 50 years. *JAMA Psychiatry* 2014;71:821-6.
4. McCabe SE, West BT, Boyd CJ. Leftover prescription opioids and nonmedical use among high school seniors: a multi-cohort national study. *Journal of Adolescent Health* 2013;52:480-5.
5. Bicket MC, Long JJ, Pronovost PJ, Alexander GC, Wu CL. Prescription Opioid Analgesics Commonly Unused After Surgery: A Systematic Review. *JAMA Surgery* 2017.
6. Volkow ND, McLellan TA, Cotto JH, Karithanom M, Weiss SR. Characteristics of opioid prescriptions in 2009. *JAMA* 2011;305:1299-301.
7. Ossiander E. Acute Opioid Prescriptions to Youth in Washington, July – December 2015. Unpublished Report: Washington State Department of Health; 2016.
8. Denisco RC, Kenna GA, O’Neil MG, et al. Prevention of prescription opioid abuse: The role of the dentist. *The Journal of the American Dental Association* 2011;142:800-10.
9. Miech R, Johnston L, O’Malley PM, Keyes KM, Heard K. Prescription opioids in adolescence and future opioid misuse. *Pediatrics* 2015:peds. 2015-1364.
10. CDC offers new recommendations for opioids. 2016. (Accessed June 7, 2017, at <http://www.ada.org/en/publications/ada-news/2016-archive/march/cdc-offers-new-recommendations-for-opioids> .)
11. Moore PA, Dionne RA, Cooper SA, Hersh EV. Why do we prescribe Vicodin? *The Journal of the American Dental Association* 2016;147:530-3.
12. Paulozzi LJ, Annett JL. US data show sharply rising drug-induced death rates. *Injury Prevention* 2007;13:130-2.
13. Voepel-Lewis T, Wagner D, Tait AR. Leftover prescription opioids after minor procedures: an unwitting source for accidental overdose in children. *JAMA Pediatrics* 2015;169:497-8.
14. Hill MV, McMahon ML, Stucke RS, Barth Jr RJ. Wide variation and excessive dosage of opioid prescriptions for common general surgical procedures. *Annals of Surgery* 2017;265:709-14.
15. Shah A. Characteristics of Initial Prescription Episodes and Likelihood of Long-Term Opioid Use—United States, 2006–2015. *MMWR Morbidity and Mortality Weekly Report* 2017;66.
16. Dionne RA, Gordon SM, Moore PA. Prescribing Opioid Analgesics for Acute Dental Pain: Time to Change Clinical Practices in Response to Evidence and Misperceptions. *Compendium of continuing education in dentistry (Jamesburg, NJ: 1995)* 2016;37:372.
17. Moore PA, Hersh EV. Combining ibuprofen and acetaminophen for acute pain management after third-molar extractions: translating clinical research to dental practice. *The Journal of the American Dental Association* 2013;144:898-908.
18. Aminoshariae A, Kulild JC, Donaldson M, Hersh EV. Evidence-based recommendations for analgesic efficacy to treat pain of endodontic origin: A systematic review of randomized controlled trials. *The Journal of the American Dental Association* 2016;147:826-39.
19. Rodrigo M, Comfort M, Lee K. Pre-operative difflunisal for pain relief following third molar surgery under general anaesthesia. *Australian Dental Journal* 1993;38:125-30.
20. Joshi A, Parara E, Macfarlane TV. A double-blind randomised controlled clinical trial of the effect of preoperative ibuprofen, diclofenac, paracetamol with codeine and placebo tablets for relief of postoperative pain after removal of impacted third molars. *British Journal of Oral and Maxillofacial Surgery* 2004;42:299-306.
21. FDA Drug Safety Communication: FDA strengthens warning that non-aspirin nonsteroidal anti-inflammatory drugs (NSAIDs) can cause heart attacks or strokes. 2015. (Accessed June 7, 2017, at <https://www.fda.gov/Drugs/DrugSafety/ucm451800.htm>.)

22. FDA recommends health care professionals discontinue prescribing and dispensing prescription combination drug products with more than 325 mg of acetaminophen to protect consumers. 2014. (Accessed June 7, 2017, at <https://www.fda.gov/Drugs/DrugSafety/ucm381644.htm>.)
23. Dowell D, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain—United States, 2016. *JAMA* 2016;315:1624-45.
24. Baker JA, Avorn J, Levin R, Bateman BT. Opioid prescribing after surgical extraction of teeth in Medicaid patients, 2000-2010. *JAMA* 2016;315:1653-4.
25. Casey B, Jones RM, Hare TA. The adolescent brain. *Annals of the New York Academy of Sciences* 2008;1124:111-26.
26. Chambers RA, Taylor JR, Potenza MN. Developmental neurocircuitry of motivation in adolescence: a critical period of addiction vulnerability. *American Journal of Psychiatry* 2003;160:1041-52.
27. Statement on the Use of Opioids in the Treatment of Dental Pain. 2016. (Accessed June 7, 2017, at <http://www.ada.org/en/about-the-ada/ada-positions-policies-and-statements/statement-on-opioids-dental-pain>.)
28. FDA Drug Safety Communication: FDA restricts use of prescription codeine pain and cough medicines and tramadol pain medicines in children; recommends against use in breastfeeding women. 2017. (Accessed June 7, 2017, at <https://www.fda.gov/Drugs/DrugSafety/ucm549679.htm>.)
29. Tobias JD, Green TP, Cote CJ. Codeine: Time to Say "No". *Pediatrics* 2016;138.
30. Washington State Agency Medical Director's Group. Interagency Guideline on Prescribing Opioids for Pain. <http://www.agencymeddirectors.wa.gov/Files/2015AMDGOpoidGuideline.pdf2015>.
31. McCauley JL, Hyer JM, Ramakrishnan VR, et al. Dental opioid prescribing and multiple opioid prescriptions among dental patients: administrative data from the South Carolina prescription drug monitoring program. *The Journal of the American Dental Association* 2016;147:537-44.
32. Martin BC, Fan M-Y, Edlund MJ, DeVries A, Braden JB, Sullivan MD. Long-term chronic opioid therapy discontinuation rates from the TROUP study. *Journal of General Internal Medicine* 2011;26:1450-7.