

# DENTAQUEST CLINICAL UPDATES ON OPIOIDS

APRIL 2018



# Three objectives today for our time together

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- First: Document there IS a serious opioid problem
- Second: Clarify that ***dental*** prescribers are significantly contributory and partly responsible for the problem
- Third: Present irrefutable evidence and documentation that opioids are ***less effective*** than other non opioid choices and opioids should rarely (if ever) be the first choice for acute pain management.

## Charles Dickens > Quotes > Quotable Quote



“It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of light, it was the season of darkness, it was the spring of hope, it was the winter of despair.”

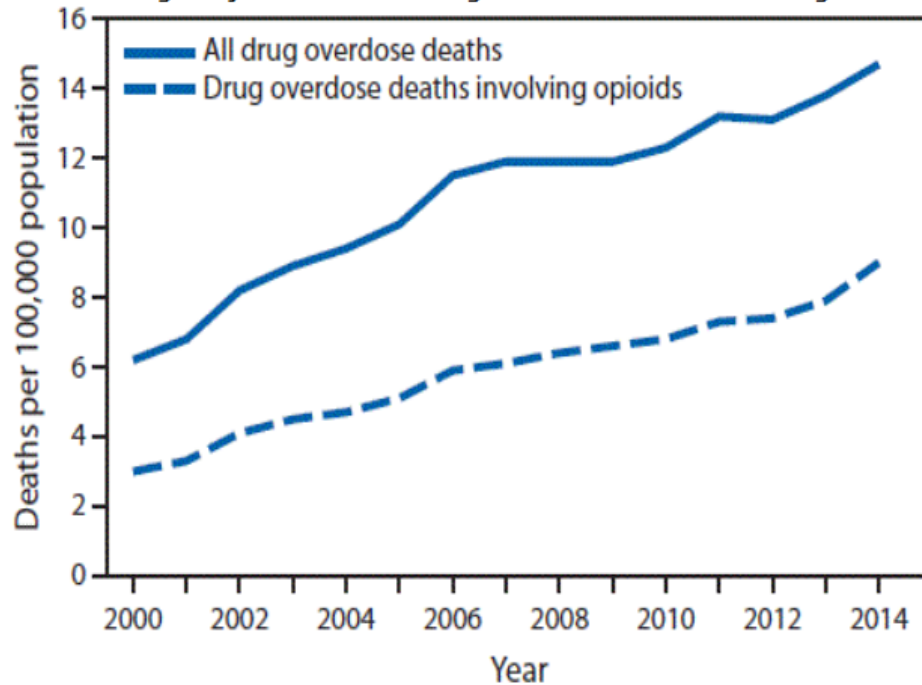
— Charles Dickens, *A Tale of Two Cities*

Since 1999, sales of prescription opioids in the U.S. have **quadrupled**.



More than **11 million** people abused prescription opioids in 2016.

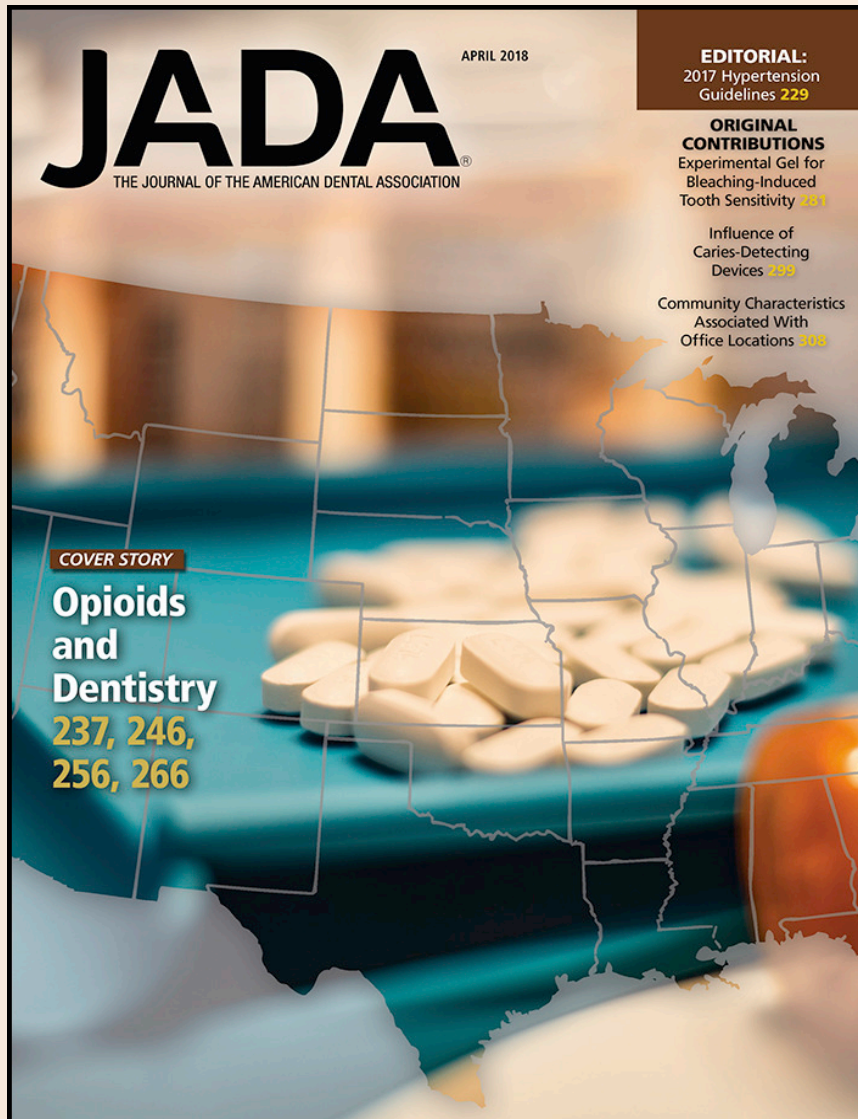
FIGURE 1. Age-adjusted rate\* of drug overdose deaths<sup>†</sup> and drug overdose deaths involving opioids<sup>§,¶</sup> — United States, 2000–2014



Source: National Vital Statistics System, Mortality file.

It is critical that we *rethink and permanently change our prescribing of opioid meds for all patients who might need relief of acute pain post operative.*

# CURRENT STATE



The next slides are developed from articles and data in the most recent JADA;

April 2018 Volume 149, Issue 4, Pages 237–245.e6

# CURRENT PRACTICES; ( A LOT OF THE PROBLEM)



The screenshot shows the top portion of the JADA website. At the top left is the JADA logo in green, with the text "THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION" below it. To the right of the logo, the text "Non-Mem" is partially visible. Below the logo is a green navigation bar with white text and dropdown arrows for "Articles & Issues", "CE", "JADA+ Content", "Clinical Scans", "For Authors", "For Readers", and "For". Below the navigation bar is a search area with a text input field, a dropdown menu set to "All Content", a "Search" button, and a link to "Advanced Search". At the bottom of the screenshot is a light green banner with navigation buttons: "< Previous Article", "April 2018 Volume 149, Issue 4, Pages 237–245.e6", and "Next Article >".

## Opioid prescribing practices from 2010 through 2015 among dentists in the United States

What do claims data tell us?

[Niodita Gupta](#), MD, MPH, PhD  , [Marko Vujicic](#), PhD, [Andrew Blatz](#), MS

This article has an accompanying online continuing education activity available at:  
<http://jada.ada.org/ce/home>.



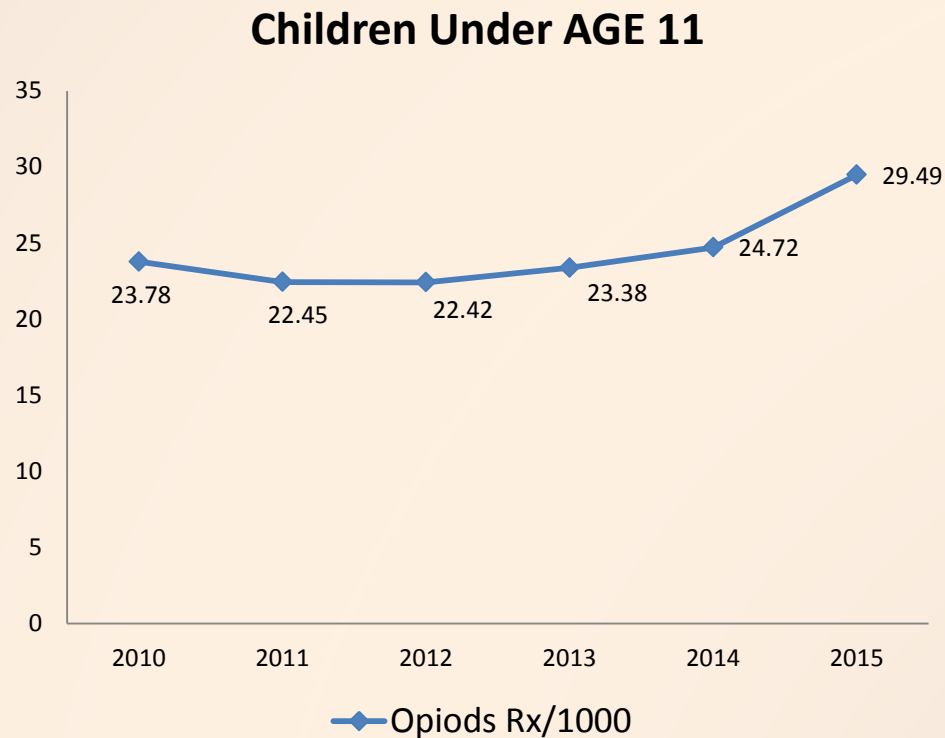
**Table 1**

Number of opioid prescriptions written by dentist per 1,000 dental patients according to patient age group in the United States for 2010 through 2015.\*

AGE GROUP, Y	2010, NO. (95% CI) <sup>1</sup>	2011, NO. (95% CI)	2012, NO. (95% CI)	2013, NO. (95% CI)	2014, NO. (95% CI)	2015, NO. (95% CI)
< 11	23.78 (22.78 to 24.78)	22.45 (21.49 to 23.40)	22.42 (21.48 to 23.35)	23.38 (22.34 to 24.41)	24.72 (23.62 to 25.82)	29.49 (28.09 to 30.88)
11-18	99.71 (98.44 to 100.97)	100.32 (99.08 to 101.56)	99.69 (98.49 to 100.89)	107.99 (106.66 to 109.32)	124.91 (123.43 to 126.40)	165.94 (163.98 to 167.91)
19-25	214.18 (211.42 to 216.94)	206.19 (203.87 to 208.51)	182.88 (180.94 to 184.83)	171.68 (169.79 to 173.57)	171.79 (169.98 to 173.60)	185.06 (183.05 to 187.07)
26-40	153.31 (152.04 to 154.58)	150.97 (149.78 to 152.16)	145.90 (144.81 to 146.99)	142.71 (141.59 to 143.84)	150.44 (149.30 to 151.58)	169.41 (168.06 to 170.76)
41-55	131.99 (131.08 to 132.91)	131.79 (130.91 to 132.66)	126.38 (125.58 to 127.18)	125.47 (124.65 to 126.29)	127.38 (126.56 to 128.20)	140.20 (139.26 to 141.13)
56-64	127.24 (125.98 to 128.49)	119.25 (118.14 to 120.36)	115.73 (114.73 to 116.72)	115.74 (114.74 to 116.75)	116.13 (115.16 to 117.10)	132.84 (131.75 to 133.94)
All Age Groups Under 65 Y	130.58 (130.04 to 131.12)	129.70 (129.19 to 130.20)	125.28 (124.82 to 125.74)	125.04 (124.56 to 125.52)	129.81 (129.33 to 130.29)	147.44 (146.88 to 148.00)

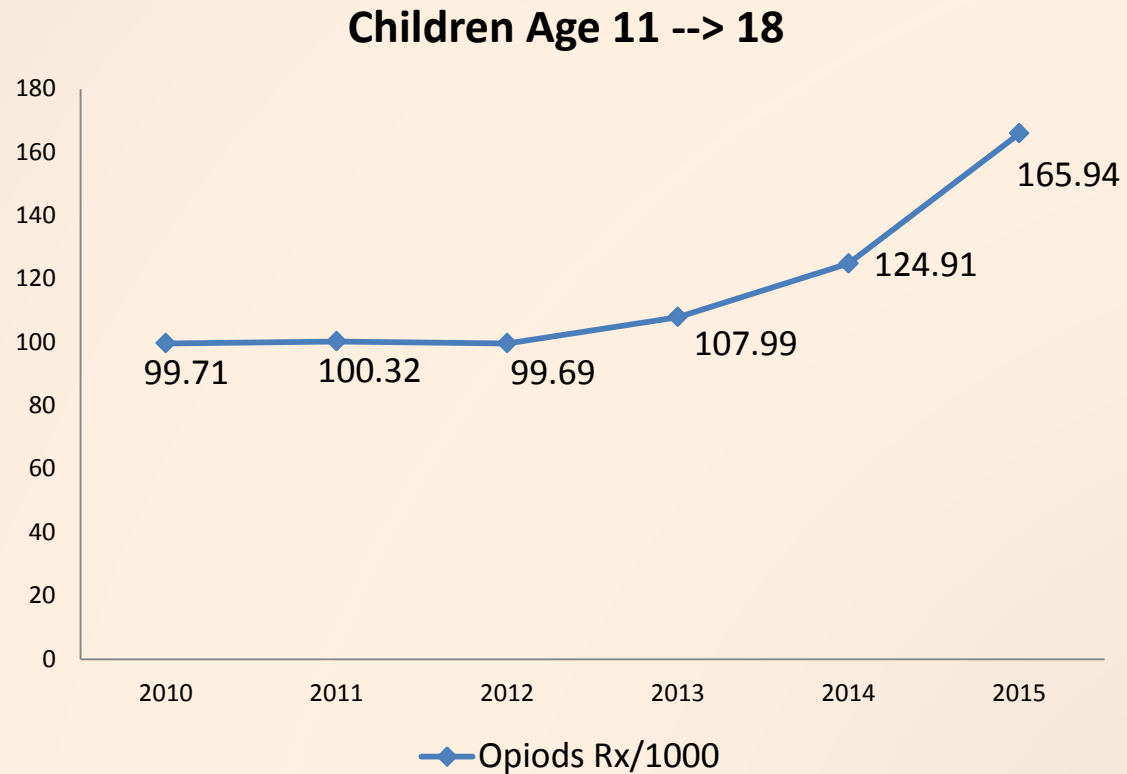
THE TABLE IS TOO MUCH DATA;  
THE **TREND** IS WHAT I WANT YOU TO UNDERSTAND  
CLEARLY THE SLOPE ON THIS LINE IS TROUBLING

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# THERE IS NO JUSTIFICATION FOR CONTINUING



- **Background**

Dentists wrote 6.4% of all opioid prescriptions in the United States in 2012. The purpose of this study was to examine opioid prescription rates, dosage of opioids prescribed, type of opioid drug prescribed, and type of dental visit at which dentists prescribe opioids.

- **Methods**

The authors used the 2010 through 2015 Truven Health Marketscan Research databases and the Prescription Drug Monitoring Program (PDMP) Training and Technical Assistance Center conversion data set. The authors conducted descriptive analyses for days' supply, quantity prescribed, and daily morphine milligram equivalent dose.

- **Results**

The opioid prescription rate per 1,000 dental patients increased from 130.58 in 2010 to 147.44 in 2015. Approximately 68.41% of all opioids prescribed were during surgical dental visits and approximately 31.10% during nonsurgical dental visits. During nonsurgical dental visits at which dentists prescribed an opioid, most of the procedures were restorative.

- **Conclusions**

- Among a population of dental patients with private insurance, opioid prescribing rates in the United States increased slightly from 2010 to 2015. **The largest increase was among 11- through 18-year-olds. Almost one-third of opioid prescriptions written by dentists were associated with nonsurgical dental visits.**

## Opioid Prescribing in Dentistry

Stephanie Golubic, DMD, MBE; Paul A. Moore, DMD, PhD, MPH; Nathaniel Katz, MD; George A. Kenna, PhD, RPh; and Elliot V. Hersh, DMD, MS, PhD

March 2, 2017 RN :Inside Dentistry

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“Currently, opioids are routinely prescribed in cases that could often be appropriately managed with NSAIDs and are also prescribed in excess quantities in many dental prescriptions.<sup>7,22</sup>”

### Citation:

#### Opioid Prescribing in Dentistry

Stephanie Golubic, DMD, MBE; Paul A. Moore, DMD, PhD, MPH; Nathaniel Katz, MD; George A. Kenna, PhD, RPh; and Elliot V. Hersh, DMD, MS, PhD

March 2, 2017 RN - Expires March 31st, 2020

#### Inside Dentistry

*7. Centers for Disease Control and Prevention. Adult use of prescription opioid pain medications—Utah, 2008. MMWR Morb Mortal Wkly Rep. 2010;59(6):153-157*

*22. Moore PA, Nahouraii HS, Zovko JG, Wisniewski SR. Dental therapeutic practice patterns in the U.S. II. Analgesics, corticosteroids, and antibiotics. Gen Dent. 2006;54(3):201-207*

# NOTICE THE SIGNIFICANT DIFFERENCE BETWEEN “PRESCRIBED” AND “USED”

Full length article

## Unused opioid analgesics and drug disposal following outpatient dental surgery: A randomized controlled trial



Brandon C. Maughan<sup>a,b,d,\*</sup>, Elliot V. Hersh<sup>c</sup>, Frances S. Shofer<sup>d</sup>, Kathryn J. Wanner<sup>d</sup>, Elizabeth Archer<sup>d</sup>, Lee R. Carrasco<sup>c</sup>, Karin V. Rhodes<sup>b,d</sup>

<sup>a</sup> Robert Wood Johnson Foundation Clinical Scholars Program, University of Pennsylvania, Philadelphia, PA, USA

<sup>b</sup> Leonard Davis Institute of Health Economics, University of Pennsylvania, Philadelphia, PA, USA

<sup>c</sup> Departments of Oral & Maxillofacial Surgery and Pharmacology, University of Pennsylvania School of Dental Medicine, Philadelphia PA, USA

<sup>d</sup> Department of Emergency Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

**Table 2**  
Opioid Prescriptions.

	Without dry socket	With dry socket
Patients	67	5
Mean opioid analgesic pills prescribed (SD)	28 (6)	36 (11)
Mean opioid analgesic pills consumed (SD)	13 (10)	18 (9)
Patients with opioid analgesics remaining at day 21 (% of total)	61 (91%)	4 (80%)
Total opioid analgesic pills prescribed	1870	181
Total opioid analgesic pills remaining at day 21 (% of total)	1010 (54%)	92 (50%)

Table excludes 7 patients who did not fill an opioid prescription.

**TABLE 3****Prescribing Options for Dental Pain to Minimize Opioid Misuse or Abuse**

<b>PAIN LEVEL</b>	<b>TREATMENT</b>
Mild pain	OTC ibuprofen, naproxen, or ketoprofen, as needed.
Mild-to-moderate pain	Ibuprofen 400 mg to 600 mg every 4-6 hours by the clock for first 48-72 hours, not to exceed maximum recommended daily dose. As needed until pain subsides.
Moderately severe pain	<p>Prescription dose of NSAID administered prior to the procedure or immediately afterward.</p> <p>Administration of long-acting local anesthetic 0.5% bupivacaine with epinephrine for procedural anesthesia and postoperative analgesia.</p> <p>Postoperative administration of prescription dose of NSAID administered by the clock for 48-72 hours combined with administration of acetaminophen 600/650 mg by the clock; the two medications can be given concurrently or alternated to maintain blood levels of both medications.</p>
Severe pain	<p>Provide a prescription of an opioid drug (3-day supply only) in combination with acetaminophen to be filled and administered only if needed for pain not relieved by regimen for moderately severe pain.</p> <p>Example: 2 tablets of 325-mg acetaminophen plus 37.5-mg tramadol (Ultracet) every 4-6 hours.</p> <p>Separate dosing of 600/650 mg acetaminophen needs to be discontinued.</p>

*Maximal daily doses per 24-hour period: ibuprofen 3200 mg, acetaminophen 3000 mg, tramadol: immediate release 400 mg/day, extended release 300 mg/day, and Ultracet not to exceed 8 tablets.*

Abbreviations: NSAID = nonsteroidal anti-inflammatory drug, OTC = over-the-counter.

YOU MIGHT BE THINKING THIS PROBLEM IS IN OTHER AREAS; NOT SO MUCH HERE; RIGHT ?

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**WRONG !!**

## Tennessee

- In 2016, Tennessee was the third highest prescriber of opioids.

Source: [CDC Annual Surveillance Report of Drug-Related Risks and Outcomes](#)



# Morbidity and Mortality Weekly Report (MMWR)

[MMWR](#)



## Increases in Drug and Opioid Overdose Deaths – United States, 2000-2014

Weekly  
 January 1, 2016 / 64(50);1378-82

TABLE. (Continued) Number and age-adjusted rates of drug overdose deaths,\* by sex, age, race and Hispanic origin,<sup>†</sup> Census region, and state – United States, 2013 and 2014

TABLE. Number and age-adjusted rates of drug overdose deaths,* by sex, age, race and Hispanic origin, <sup>†</sup> Census region, and state –United States, 2013 and 2014					
Decedent characteristic	2013		2014		% change from 2013 to 2014
	No.	Age-adjusted rate	No.	Age-adjusted rate	
Tennessee	1,187	18.1	1,269	19.5	7.7

**Source:** National Vital Statistics System, Mortality file.

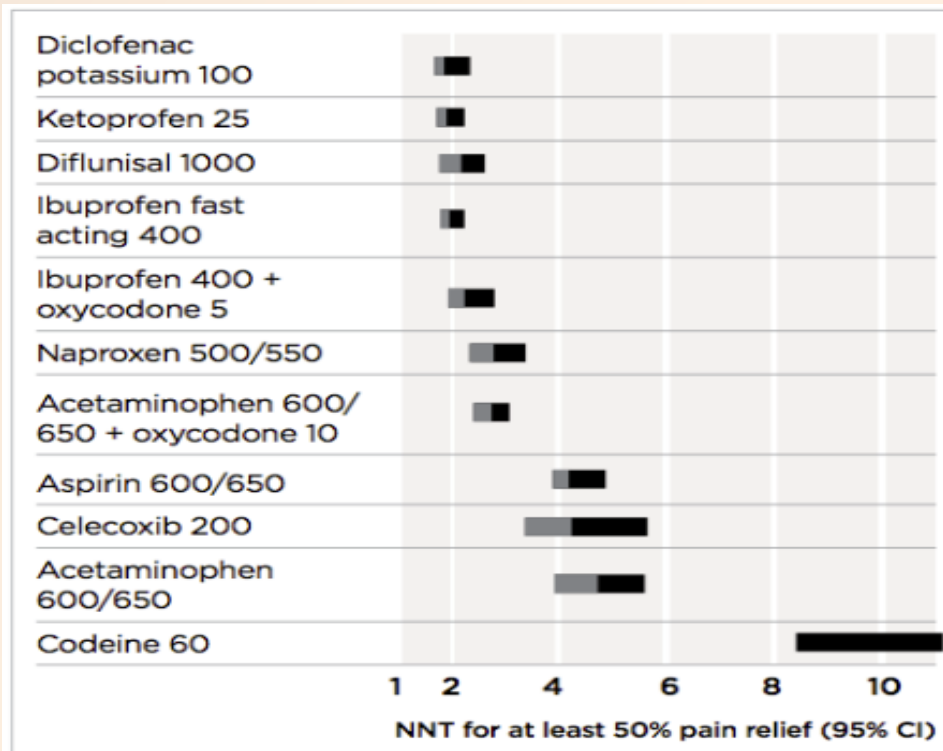
\* Deaths are classified using the *International Classification of Diseases, Tenth Revision (ICD-10)*. Drug overdose deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Age-adjusted death rates were calculated by applying age-specific death rates to the 2000 U.S standard population age distribution.

<sup>†</sup> Data for Hispanic origin should be interpreted with caution; studies comparing Hispanic origin on death certificates and on census surveys have shown inconsistent reporting on Hispanic ethnicity.

<sup>§</sup> Statistically significant change from 2013 to 2014.



# NNT (Number Needed to Treat)



Adapted from: Moore RA, Derry S, Aldington D, Wiffen P. *Cochrane Database Systematic Reviews*. 2015;9:CD008659.

## Image 1 of 5

Fig 1. The axis for the graph is NNT, which stands for Number Needed to Treat to obtain 50% pain relief over 4 to 6 hours compared to placebo following all types of surgery. The lower the NNT, the better the analgesic medication worked.

TABLE 3

## Prescribing Options for Dental Pain to Minimize Opioid Misuse or Abuse

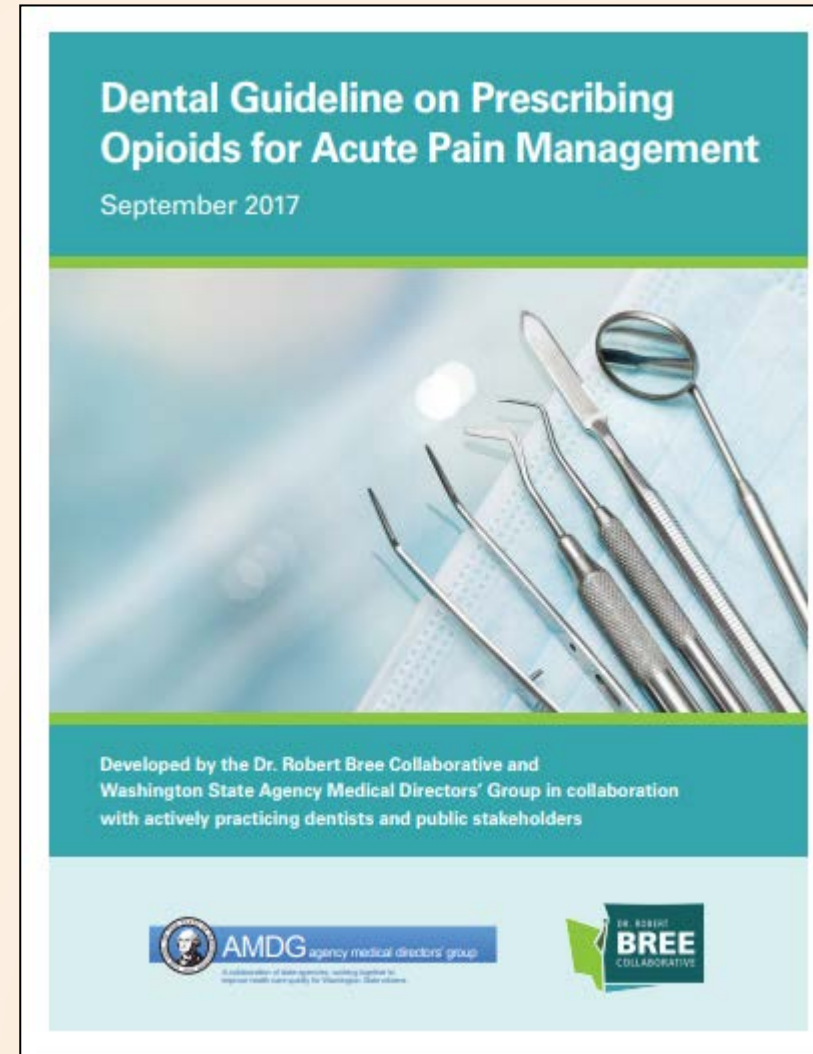
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# DENTAL GUIDELINES FOR PAIN MANAGEMENT

*We review the evidence that supports this conclusion and consider the role of patients' expectations for receiving an opioid for acute dental pain that conflicts with the ethical imperative to "do no harm" for analgesic prescribing as part of dental care. We also provide alternative evidence-based therapeutic strategies for treating acute pain in dental practice. **The data presented indicate opioids should be prescribed only as a last choice for acute dental pain.** A failure for the dental profession to change from routine opioid prescribing for acute dental pain to more rational alternatives in the face of overwhelming evidence may continue to significantly contribute to the public health crisis in the opioid overdose epidemic.*





*The scientific evidence indicates that routine Opioid prescribing by **Dentists** is estimated to be 11% of the overall annual number of opioid prescriptions in the United States indicating that approximately 1,500 deaths annually may be attributed to **UNUSED** opioids.*

<https://www.cdc.gov/drugoverdose/data/overdose.html>

# THERE IS A BETTER CHOICE AND SOLUTION !



Continuing Dental Education  
for LIFE-LONG LEARNING

COURSES ▶

EVENTS

WEBINARS

EBOOKS

PARTNER PROGRAMS

CDEWorld > Courses > Prescribing Opioid Analgesics for Acute Dental Pain: Time to Change Clinical Practices in F

## Prescribing Opioid Analgesics for Acute Dental Pain: Time to Change Clinical Practices in Response to Evidence and Misperceptions

Raymond A. Dionne, DDS, PhD; Sharon M. Gordon, DDS, MPH; and Paul A. Moore, DMD, PhD, MPH

June 2016 Issue - Expires June 30th, 2019

*Compendium of Continuing Education in Dentistry*

### *Abstract*

*As the nation comes to terms with a prescription opioid epidemic, dentistry is beginning to understand its own unintentional contribution and seek ways to address it. The article urges dental providers to reexamine entrenched prescribing habits and thought patterns regarding treatment of acute dental pain. It points to evidence suggesting that nonsteroidal anti-inflammatory drugs are nonaddictive and usually more effective for managing many cases of acute dental pain. The authors provide therapeutic recommendations to help dental providers change prescribing patterns.*



# ALTERNATE/BETTER SOLUTIONS

- Despite evidence that non-opioid medications are often sufficient to manage postoperative dental pain and **have actually been shown to perform with greater efficacy than opioids in most clinical trials of dental pain,**<sup>12,18-21</sup> the dentist may prescribe opioids simply because it is the treatment with which he or she has the most clinical experience and is most comfortable.

- **Opioid Prescribing in Dentistry**

**Stephanie Golubic, DMD, MBE; Paul A. Moore, DMD, PhD, MPH;**

**Nathaniel Katz, MD; George A. Kenna, PhD, RPh;**

**Elliot V. Hersh, DMD, MS, PhD**

**March 2, 2017 - Inside Dentistry**

**12.** Van Dyke T, Litkowski LJ, Kiersch TA, et al. Combination oxycodone 5 mg/ibuprofen 400 mg for the treatment of postoperative pain: a double-blind, placebo- and active-controlled parallel-group study. *Clin Ther.* 2004;26(12):2003-2014.

**18.** Hersh EV, Levin LM, Cooper SA, et al. Ibuprofen liquigel for oral surgery pain. *Clin Ther.* 2000;22(11):1306-1318.

**19.** Cooper SA. Five studies on ibuprofen for postsurgical dental pain. *Am J Med.* 1984;77(1A):70-77.

**20.** Hersh EV, Cooper SA, Betts N, et al. Single dose and multidose analgesic study of ibuprofen and meclufenamate sodium after third molar surgery. *Oral Surg Oral Med Oral Pathol.* 1993;76(6):680-687.

**21.** Cooper SA, Engel J, Ladov M, et al. Analgesic efficacy of an ibuprofen-codeine combination. *Pharmacotherapy.* 1982;2(3):162-167.

## Combining ibuprofen and acetaminophen for acute pain management after third-molar extractions *cont.*

### Translating clinical research to dental practice

Paul A. Moore, DMD, PhD, MPH; Elliot V. Hersh, DMD, MS, PhD: *JADA 144(8) August 2013*

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**Conclusions.** *The results of the quantitative systematic reviews indicated 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.*

In addition, the authors found several randomized controlled trials that also indicated that the *ibuprofen-APAP combination provided greater pain relief than did ibuprofen or APAP alone after third-molar extractions.* The adverse effects associated with the combination were similar to those of the individual component drugs.



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## Conclusions

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Opioid medication and medication combinations are not among the most effective or long lasting of the options available for relief of acute dental pain. In addition, opioid medication and medication combinations are associated with higher rates of acute adverse events. From the perspective of risk-benefit analysis, justifying general use of opioid medications as first-line therapy for management of acute pain remains unclear. The large set of published research reports summarized here suggests that relief of postoperative pain in dental practice with the use of nonsteroidal anti-inflammatory drugs, with or without acetaminophen, is equal or superior to that provided by opioid-containing medications.

## Benefits and harms associated with analgesic medications used in the management of acute dental pain

An overview of systematic reviews

[Paul A. Moore](#), DMD, PhD, MPH  , [Kathleen M. Ziegler](#), PharmD, [Ruth D. Lipman](#), PhD, [Anita Aminoshariae](#), DDS, MS, [Alonso Carrasco-Labra](#), DDS, MSc, [Angelo Mariotti](#), DDS, PhD

When comparing the efficacy of nonsteroidal anti-inflammatory medications with opioids in relation to the magnitude of pain relief, the combination of 400 mg of ibuprofen plus 1,000 mg of acetaminophen was found to be superior to **any** opioid-containing medication or medication combination studied.

## Results

The opioid prescription rate per 1,000 dental patients increased from 130.58 in 2010 to 147.44 in 2015. Approximately 68.41% of all opioids prescribed were during surgical dental visits and approximately 31.10% during nonsurgical dental visits. During nonsurgical dental visits at which dentists prescribed an opioid, most of the procedures were restorative.

## Conclusions

Among a population of dental patients with private insurance, opioid prescribing rates in the United States increased slightly from 2010 to 2015. The largest increase was among 11- through 18-year-olds. Almost one-third of opioid prescriptions written by dentists were associated with **nonsurgical dental visits**

# ALTERNATIVE TREATMENT



## THE FIRST AND ONLY INTRANASAL NSAID



**SPRIX® Nasal Spray** provides pain relief in adult patients for up to 5 days that requires analgesia at the opioid level



**SPRIX is a potent NSAID, NOT a controlled substance**

## INDICATIONS AND USAGE

SPRIX® (ketorolac tromethamine) is indicated in adult patients for the short term (up to 5 days) management of moderate to moderately severe pain that requires analgesia at the opioid level.

### Limitations of Use

Sprix is not for use in pediatric patients less than 2 years of age.

## IMPORTANT SAFETY INFORMATION ABOUT SPRIX

**WARNING: RISK OF SERIOUS CARDIOVASCULAR AND GASTROINTESTINAL EVENTS**

### Cardiovascular Thrombotic Events

Nonsteroidal anti-inflammatory drugs (NSAIDs) cause an increased risk of serious cardiovascular thrombotic events, including myocardial



Example of new product; not an endorsement

# *PMPD*; PRESCRIPTION MONITORING PROGRAM DATA

SOURCE JADA: APRIL 2018; VOLUME 149: PG 266-272

Ex: from MA

A 55-year-old woman with a history of temporomandibular joint pain and surgery and prescription drug misuse was evaluated for recurrence of facial pain. Her data showed that in the past year she had received 151 prescriptions, of which 97 were opioids, 20 benzodiazepines, and 19 anxiolytics. They had been written by 53 prescribers, 10 of which were recognized as dentists, and she had them filled at 27 pharmacies. She was registered under 2 different names and had 2 addresses.

A 33-year-old health care professional with "jaw pain" moved from a neighboring state. The dentist was suspicious of her symptoms and her stated need for opioids. In the past 6 months, she has had 20 prescriptions, 16 for opioids and 2 benzodiazepines written by 18 prescribers, 15 of whom were dentists all practicing within a few miles of one another in a metropolitan area. The prescriptions were filled at 10 pharmacies. A check of the data from the neighboring state demonstrated the same pattern of "dentist shopping."



**CDC guidelines state the following: Long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, 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.**

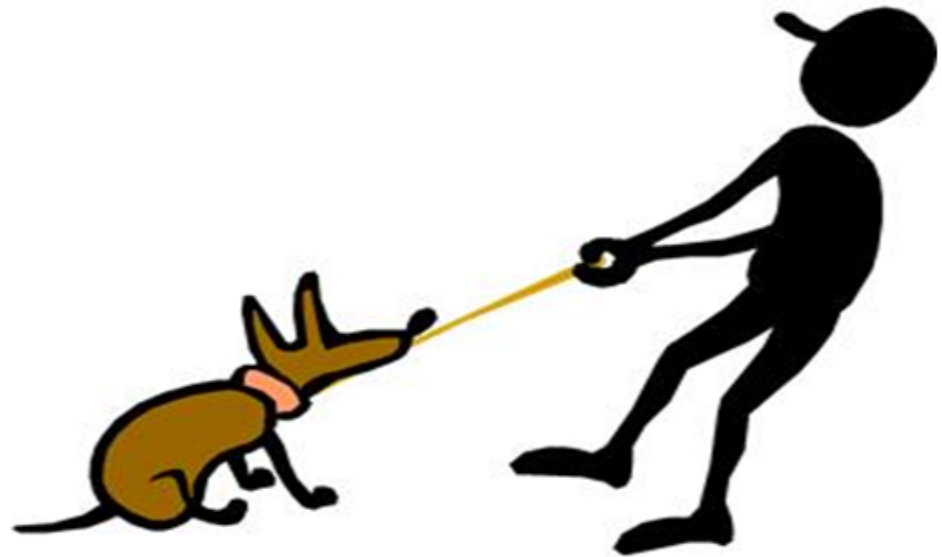
What will you be ?

Part of the Problem or *part of the solution?*

# Provider Behavior Modification

Dental  
Medical

Difficult at best





WE MUST STOP WHAT WE HAVE BEEN DOING !

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