Three objectives today for our time together

• 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.
“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
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.*
The next slides are developed from articles and data in the most recent JADA;
CURRENT PRACTICES; (A LOT OF THE PROBLEM)

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

What do claims data tell us?

Nidita 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 2015.¹

<table>
<thead>
<tr>
<th>AGE GROUP, Y</th>
<th>2010, NO. (95% CI)</th>
<th>2011, NO. (95% CI)</th>
<th>2012, NO. (95% CI)</th>
<th>2013, NO. (95% CI)</th>
<th>2014, NO. (95% CI)</th>
<th>2015, NO. (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 11</td>
<td>23.78 (22.78 to 24.78)</td>
<td>22.45 (21.49 to 23.40)</td>
<td>22.42 (21.48 to 23.35)</td>
<td>23.38 (22.34 to 24.41)</td>
<td>24.72 (23.62 to 25.82)</td>
<td>29.49 (28.09 to 30.88)</td>
</tr>
<tr>
<td>11-18</td>
<td>99.71 (98.44 to 100.97)</td>
<td>100.32 (99.08 to 101.56)</td>
<td>99.69 (98.49 to 100.89)</td>
<td>107.99 (106.66 to 109.32)</td>
<td>124.91 (123.43 to 126.40)</td>
<td>165.94 (163.98 to 167.91)</td>
</tr>
<tr>
<td>19-25</td>
<td>214.18 (211.42 to 216.94)</td>
<td>206.19 (203.87 to 208.51)</td>
<td>182.88 (180.94 to 184.83)</td>
<td>171.68 (169.79 to 173.57)</td>
<td>171.79 (169.98 to 173.60)</td>
<td>185.06 (183.05 to 187.07)</td>
</tr>
<tr>
<td>26-40</td>
<td>153.31 (152.04 to 154.58)</td>
<td>150.97 (149.78 to 152.16)</td>
<td>145.90 (144.81 to 146.99)</td>
<td>142.71 (141.59 to 143.84)</td>
<td>150.44 (149.30 to 151.56)</td>
<td>169.41 (168.06 to 170.76)</td>
</tr>
<tr>
<td>41-55</td>
<td>131.99 (131.08 to 132.91)</td>
<td>131.79 (130.91 to 132.66)</td>
<td>126.38 (125.58 to 127.18)</td>
<td>125.47 (124.65 to 126.29)</td>
<td>127.38 (126.56 to 128.20)</td>
<td>140.20 (139.26 to 141.13)</td>
</tr>
<tr>
<td>56-64</td>
<td>127.24 (125.98 to 128.49)</td>
<td>119.25 (118.14 to 120.36)</td>
<td>115.73 (114.73 to 116.72)</td>
<td>115.74 (114.74 to 116.75)</td>
<td>116.13 (115.16 to 117.10)</td>
<td>132.84 (131.75 to 133.94)</td>
</tr>
<tr>
<td>All Age Groups Under 65 Y</td>
<td>130.58 (130.04 to 131.12)</td>
<td>129.70 (129.19 to 130.20)</td>
<td>125.28 (124.82 to 125.74)</td>
<td>125.04 (124.56 to 125.52)</td>
<td>129.81 (129.33 to 130.29)</td>
<td>147.44 (146.88 to 148.00)</td>
</tr>
</tbody>
</table>
THE TABLE IS TOO MUCH DATA; THE TREND IS WHAT I WANT YOU TO UNDERSTAND CLEARLY THE SLOPE ON THIS LINE IS TROUBLING.
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.
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.\(^7\),\(^22\)
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\textsuperscript{a,b,d,\*}, Elliot V. Hersh\textsuperscript{c}, Frances S. Shofer\textsuperscript{d}, Kathryn J. Wanner\textsuperscript{d}, Elizabeth Archer\textsuperscript{d}, Lee R. Carrasco\textsuperscript{c}, Karin V. Rhodes\textsuperscript{b,d}

\textsuperscript{a} Robert Wood Johnson Foundation Clinical Scholars Program, University of Pennsylvania, Philadelphia, PA, USA
\textsuperscript{b} Leonard Davis Institute of Health Economics, University of Pennsylvania, Philadelphia, PA, USA
\textsuperscript{c} Departments of Oral & Maxillofacial Surgery and Pharmacology, University of Pennsylvania School of Dental Medicine, Philadelphia PA, USA
\textsuperscript{d} Department of Emergency Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

Table 2
Opioid Prescriptions.

<table>
<thead>
<tr>
<th>Without dry socket</th>
<th>With dry socket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>67</td>
</tr>
<tr>
<td>Mean opioid analgesic pills prescribed (SD)</td>
<td>28 (6)</td>
</tr>
<tr>
<td>Mean opioid analgesic pills consumed (SD)</td>
<td>13 (10)</td>
</tr>
<tr>
<td>Patients with opioid analgesics remaining at day 21 (% of total)</td>
<td>61 (91%)</td>
</tr>
<tr>
<td>Total opioid analgesic pills prescribed</td>
<td>1870</td>
</tr>
<tr>
<td>Total opioid analgesic pills remaining at day 21 (% of total)</td>
<td>1010 (54%)</td>
</tr>
</tbody>
</table>

Table excludes 7 patients who did not fill an opioid prescription.
## Prescribing Options for Dental Pain to Minimize Opioid Misuse or Abuse

<table>
<thead>
<tr>
<th>PAIN LEVEL</th>
<th>TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild pain</td>
<td>OTC ibuprofen, naproxen, or ketoprofen, as needed.</td>
</tr>
<tr>
<td>Mild-to-moderate pain</td>
<td>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.</td>
</tr>
</tbody>
</table>
| Moderately severe pain   | Prescription dose of NSAID administered prior to the procedure or immediately afterward. Administration of long-acting local anesthetic 0.5% bupivacaine with epinephrine for procedural anesthesia and postoperative analgesia.  
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. |
| Severe pain              | 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.  
Example: 2 tablets of 325-mg acetaminophen plus 37.5-mg tramadol (Ultracet) every 4-6 hours.  
Separate dosing of 600/650 mg acetaminophen needs to be discontinued. |

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?

WRONG!!

Tennessee

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

Source: CDC Annual Surveillance Report of Drug-Related Risks and Outcomes
TABLE. (Continued) Number and age-adjusted rates of drug overdose deaths,* by sex, age, race and Hispanic origin,† Census region, and state — United States, 2013 and 2014

<table>
<thead>
<tr>
<th>Decedent characteristic</th>
<th>2013</th>
<th>2014</th>
<th>% change from 2013 to 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Age-adjusted rate</td>
<td>No.</td>
</tr>
<tr>
<td>Tennessee</td>
<td>1,187</td>
<td>18.1</td>
<td>1,269</td>
</tr>
</tbody>
</table>


* 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.

† 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.

§ Statistically significant change from 2013 to 2014.
NNT (Number Needed to Treat)

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

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

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.
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\textsuperscript{12,18-21} 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


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


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.
Conclusions

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.
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 infarction and stroke, which can lead to death. This risk may increase with duration of use. To minimize this risk, the lowest possible dose should be used for the shortest possible duration. Come up with your own explanation.
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!