

Post-operative pain management in dental implant surgery should consider nonsteroidal anti-inflammatory drugs as best practice

Craig S. Miller¹, Doug R. Oyler²

¹Department of Oral Health Practice, College of Dentistry, University of Kentucky, Lexington, KY, USA; ²Department of Pharmacy Practice and Science, College of Pharmacy, University of Kentucky, Lexington, KY, USA

Correspondence to: Craig S. Miller. Department of Oral Health Practice, College of Dentistry, University of Kentucky, Lexington, KY, USA. Email: cmiller@uky.edu.

Comment on: Khouly I, Braun RS, Ordway M, *et al.* Post-operative pain management in dental implant surgery: a systematic review and meta-analysis of randomized clinical trials. Clin Oral Investig 2021;25:2511-36.

Received: 17 November 2021; Accepted: 30 November 2021; Published: 30 September 2022. doi: 10.21037/joma-21-21 View this article at: https://dx.doi.org/10.21037/joma-21-21

We thank Khouly et al. for their excellent publication "Post-operative pain management in dental implant surgery: a systematic review and meta-analysis of randomized clinical trials" (1). This thorough systematic review advances the understanding of postoperative pain and the perceived needs of the patient after dental implant surgery. A main finding of their study is that pain associated with dental implant placement is effectively managed with nonsteroidal anti-inflammatory drugs (NSAIDs); albeit the authors' conclusion seemed to have missed the opportunity to emphasize this point. Clearly, numerous publication findings and prominent organizations (e.g., American Dental Association, American Association of Oral and Maxillofacial Surgeons, Centers for Disease Control and Prevention, National Academy of Medicine) support reducing opioid prescribing after dental surgery in an effort to reduce the loss of life associated with the ongoing opioid epidemic (1-5). Unfortunately, scientific publications and organizational efforts have not proven very effective at changing practice, as dental providers continue to abide by old prescribing habits and thought patterns regarding the management of acute dental pain, and clinical studies such as those reviewed by Khouly et al. fail to capture the extent of opioid prescribing in community dental practices (1). Understanding this problem comes from several studies that have examined the factors and behaviors related to opioid prescribing in dentistry, which include perceived need, inertia, and 'just in case' prescribing (6-21). However, behavior change is difficult, and translation is slow

(14,22,23). Dental education is doing their part in teaching providers to use NSAIDs as first-line analgesic therapy, unless contraindicated (24-27). And, state mandates and prescription drug monitoring programs can help promote the use of nonopioid analgesics after oral surgery (16,27). However, the dental community is at a tipping point where we need to learn from the literature as well as our cognitive and implementation scientist colleagues of how best to change human behavior if we are to make the progress we need. We are hopeful that those who extract teeth and place dental implants move their practice towards limiting the use of opioids and instead use NSAIDs as this article demonstrates, the preponderance of evidence supports, and many others advocate. We also hope that in ten years we don't look back and wonder why things haven't changed.

Acknowledgments

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *Journal of Oral and Maxillofacial Anesthesia.* The article did not undergo external peer review.

Conflicts of Interest: Both authors have completed the ICMJE uniform disclosure form (available at https://joma. amegroups.com/article/view/10.21037/joma-21-21/coif).

Journal of Oral and Maxillofacial Anesthesia, 2022

Page 2 of 3

The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: https://creativecommons.org/licenses/by-nc-nd/4.0/.

References

- Khouly I, Braun RS, Ordway M, et al. Post-operative pain management in dental implant surgery: a systematic review and meta-analysis of randomized clinical trials. Clin Oral Investig 2021;25:2511-36.
- 2. American Dental Association (2020) Oral Analgesics for Acute Dental Pain. Available online: https://www.ada. org/resources/research/science-and-research-institute/ oral-health-topics/oral-analgesics-for-acute-dental-pain Accessed 11 November 2021.
- American Association of Oral and Maxillofacial Surgeons (2020) Opioid Prescribing: Acute and Postoperative Pain Management. Available online: https://www.aaoms. org/docs/govt_affairs/advocacy_white_papers/opioid_ prescribing.pdf. Accessed 11 November 2021.
- Centers for Disease Control and Prevention (2021) Understanding the epidemic. Available online: https:// www.cdc.gov/opioids/basics/epidemic.html accessed 12 November 2021.
- National Academy of Medicine (2020) First, do no harm: marshalling clinician leadership to counter the opioid epidemic--a special publication from the National Academy of Medicine. Available online: https://nam. edu/firstno-harm-nam-special-publication Accessed 11 November 2021.
- Moore PA, Ziegler KM, Lipman RD, et al. Benefits and harms associated with analgesic medications used in the management of acute dental pain: An overview of systematic reviews. J Am Dent Assoc 2018;149:256-265.e3. Erratum in: J Am Dent Assoc 2018;149:413. Erratum in: J

Am Dent Assoc 2020;151:163.

- 7. Moore PA, Dionne RA, Cooper SA, et al. Why Do We Prescribe Vicodin? J Mich Dent Assoc 2017;99:44-8.
- 8. Volkow ND, McLellan TA, Cotto JH, et al. Characteristics of opioid prescriptions in 2009. JAMA 2011;305:1299-301.
- Falk J, Friesen KJ, Magnusson C, et al. Opioid prescribing by dentists in Manitoba, Canada: A longitudinal analysis. J Am Dent Assoc 2019;150:122-9.
- Larach DB, Waljee JF, Hu HM, et al. Patterns of Initial Opioid Prescribing to Opioid-Naive Patients. Ann Surg 2020;271:290-5.
- Chua KP, Kenney BC, Waljee JF, et al. Dental opioid prescriptions and overdose risk in patients and their families. Am J Prev Med 2021;61:165-73.
- 12. Campbell TJ, Martins D, Tadrous M, et al. Dental Opioid Prescription Characteristics and the Risk of New, Persistent Use. Am J Prev Med 2021;60:831-9.
- Moore PA, Hersh EV. Combining ibuprofen and acetaminophen for acute pain management after thirdmolar extractions: translating clinical research to dental practice. J Am Dent Assoc 2013;144:898-908.
- Dionne RA, Gordon SM, Moore PA. Prescribing opioid analgesics for acute dental pain: Time to change clinical practices in response to evidence and misperceptions. Compend Contin Educ Dent 2016;37:372-78;quiz79.
- Resnick CM, Calabrese CE, Afshar S, et al. Do oral and maxillofacial surgeons over-prescribe opioids after extraction of asymptomatic third molars? J Oral Maxillofac Surg 2019;77:1332-6.
- Miller CS, Ke C, Witty JT, et al. Prescribing patterns of opioid analgesics in a dental setting: 2013-2018. Oral Surg Oral Med Oral Pathol Oral Radiol 2020;130:402-10.
- Oyler DR, Miller CS. Patterns of opioid prescribing in an Appalachian college of dentistry. J Am Dent Assoc 2021;152:209-14.
- Chua KP, Hu HM, Waljee JF, et al. Opioid prescribing patterns by dental procedure among US publicly and privately insured patients, 2013 through 2018. J Am Dent Assoc 2021;152:309-17.
- Hubbard CC, Evans CT, Calip GS, et al. Characteristics associated with opioid and antibiotic prescribing by dentists. Am J Prev Med 2021;60:648-57.
- Priest CR, Kenney BC, Brummett CM, et al. Increased opioid prescription fills after dental procedures performed before weekends and holidays. J Am Dent Assoc 2020;151:388-398.e1.
- 21. Moore PA, Hersh EV. Just-in-case opioid prescribing. J Dent Educ 2020;84:1327-8.

Journal of Oral and Maxillofacial Anesthesia, 2022

- 22. Morris ZS, Wooding S, Grant J. The answer is 17 years, what is the question: understanding time lags in translational research. J R Soc Med 2011;104:510-20.
- 23. Bouton ME. Why behavior change is difficult to sustain. Prev Med 2014;68:29-36.
- Escontrías OA, Istrate E, Stewart DCL. Curricular and clinical approaches to addressing the opioid epidemic: Results from the 2019 ADEA opioid dental school survey. J Dent Educ 2020;84:1359-67.

doi: 10.21037/joma-21-21

Cite this article as: Miller CS, Oyler DR. Post-operative pain management in dental implant surgery should consider nonsteroidal anti-inflammatory drugs as best practice. J Oral Maxillofac Anesth 2022;1:25.

- 25. Keith DA, Kulich RJ, Bharel M, et al. Massachusetts Dental Schools Respond to the Prescription Opioid Crisis: A Statewide Collaboration. J Dent Educ 2017;81:1388-94.
- 26. Sudders M. Confronting the Opioid Epidemic: How Dental Schools Can Lead. J Dent Educ 2017;81:1387.
- 27. Sedney CL, Khodaverdi M, Pollini R, et al. Assessing the impact of a restrictive opioid prescribing law in West Virginia. Subst Abuse Treat Prev Policy 2021;16:14.