

Cover Story

Evidence-based clinical practice guideline for the pharmacologic management of acute dental pain in adolescents, adults, and older adults

A report from the American Dental Association Science and Research Institute, the University of Pittsburgh, and the University of Pennsylvania

Alonso Carrasco-Labra, DDS, MSc, PhD; Deborah E. Polk, PhD; Olivia Urquhart, MPH; Tara Aghaloo, DDS, MD, PhD; J. William Claytor, Jr., DDS, MAGD; Vineet Dhar, BDS, MDS, PhD; Raymond A. Dionne, DDS, MS, PhD; Lorena Espinoza, DDS, MPH; Sharon M. Gordon, DDS, MPH, PhD; Elliot V. Hershey, DMD, MS, PhD; Alan S. Law, DDS, PhD; Brian S.-K. Li; Paul J. Schwartz, DMD; Katie J. Suda, PharmD, MS; Michael A. Turturro, MD; Marjorie L. Wright, DMD, MPH; Tim Dawson, PhD; Anna Miroshnychenko, MSc; Sarah Pahlke, MS; Lauren Pilcher, MSPH; Michelle Shirey, MS; Malavika Tampi, MPH; Paul A. Moore, DMD, PhD, MPH

ABSTRACT

Background. A panel convened by the American Dental Association Science and Research Institute, the University of Pittsburgh, and the University of Pennsylvania conducted systematic reviews and meta-analyses and formulated evidence-based recommendations for the pharmacologic management of acute dental pain after simple and surgical tooth extraction(s) and for the temporary management (ie, definitive dental treatment not immediately available) of toothache associated with pulp and periapical diseases in adolescents, adults, and older adults.

Types of Studies Reviewed. The panel conducted 4 systematic reviews to determine the effect of opioid and nonopioid analgesics, local anesthetics, corticosteroids, and topical anesthetics on acute dental pain. The panel used the Grading of Recommendations, Assessment, Development and Evaluation approach to assess the certainty of the evidence and the Grading of Recommendations, Assessment, Development and Evaluation Evidence-to-Decision Framework to formulate recommendations.

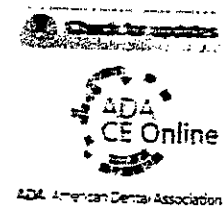
Results. The panel formulated recommendations and good practice statements using the best available evidence. There is a beneficial net balance favoring the use of nonopioid medications compared with opioid medications. In particular, nonsteroidal anti-inflammatory drugs alone or in combination with acetaminophen likely provide superior pain relief with a more favorable safety profile than opioids.

Conclusions and Practical Implications. Nonopioid medications are first-line therapy for managing acute dental pain after tooth extraction(s) and the temporary management of toothache. The use of opioids should be reserved for clinical situations when the first-line therapy is insufficient to reduce pain or there is contraindication of nonsteroidal anti-inflammatory drugs. Clinicians should avoid the routine use of just-in-case prescribing of opioids and should exert extreme caution when prescribing opioids to adolescents and young adults.

Key Words. Clinical practice guideline; acute dental pain; tooth extractions; toothache; analgesics; opioids.

JADA 2024;155(2):102-117
<https://doi.org/10.1016/j.adaj.2023.10.009>

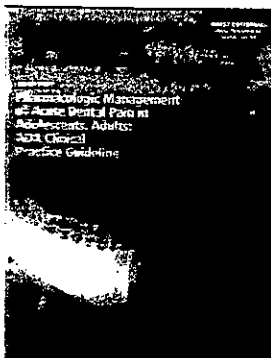
Dentists, emergency medicine professionals, and other providers prescribe medication to manage acute pain for numerous conditions ranging in pain severity from the mild pain associated with having a tooth extracted to the severe pain associated with symptomatic irreversible pulpitis. In a study comparing the change in opioid prescribing regardless of



ADA American Dental Association



Supplemental material
 is available online.



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

Copyright © 2024 American Dental Association. This is an open access article under the CC BY-NC-ND license <http://creativecommons.org/licenses/by-nc-nd/4.0/>.

Figure 1

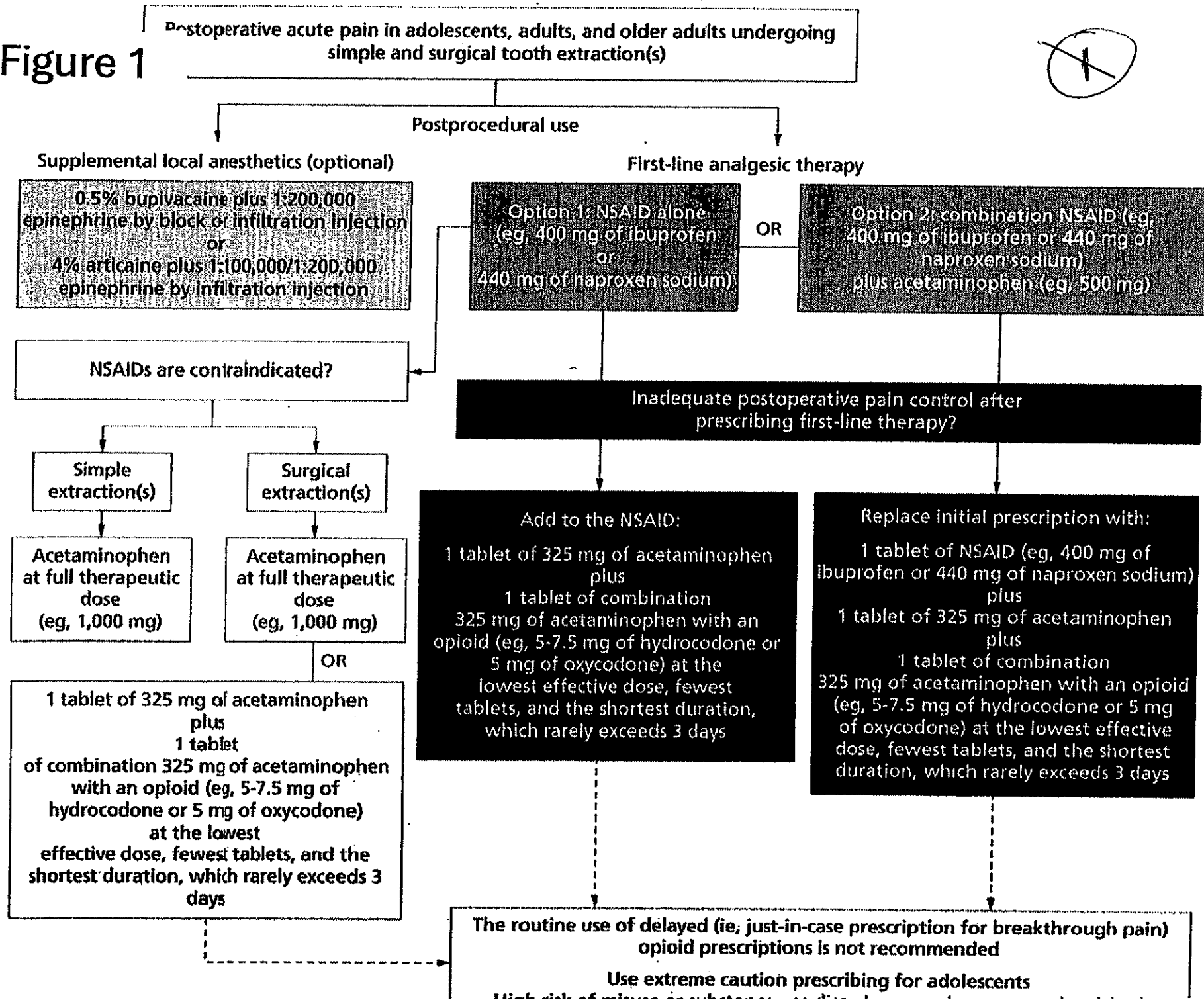
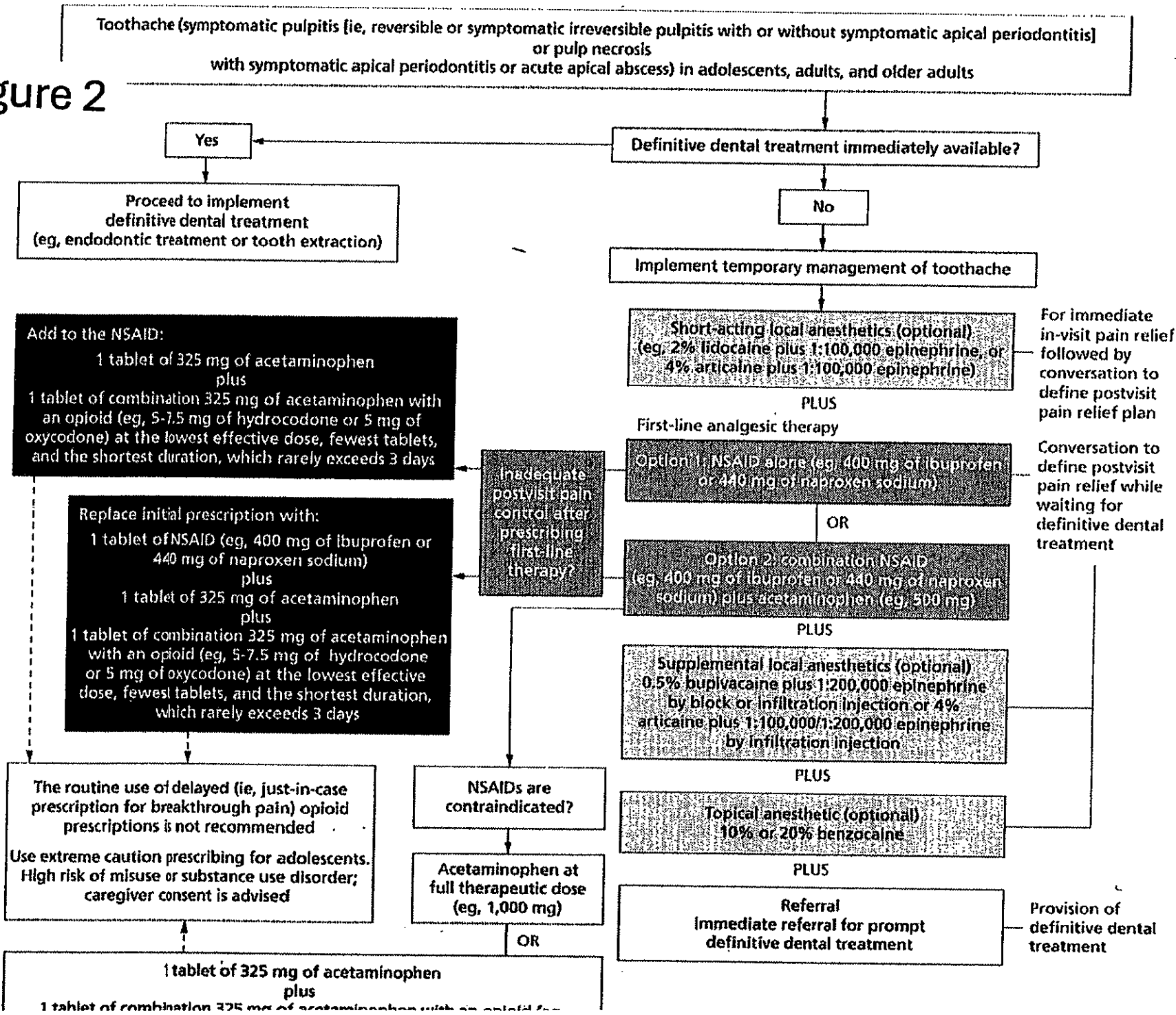


Figure 2



2

W

④

121

Absolute RX strength NSAID contraindications ✓

- 1. Lithium patient – leads to lithium tox
- 2. Black box warning – History of asthmatic reaction to aspirin
- 3. Black box warning – do not use in coronary artery bypass graft surgery – has caused fatal thrombotic events
- 4. Black box warning – causes incr risk of serious GI inflammation/bleeding in elderly and history of peptic ulcer
- 5. Patient taking NSAIDs for medical reason

121

122

Clinical pearls - NSAIDs ✓

- 1. Over-the-counter (ibuprofen) Advil is useful as a pain reliever – no Rx required – packaging states up to 1200 mg OTC ibuprofen over 24 hour period is max dose.
- OTC dose for pain/swelling is 2 tabs (400mg) every 8 hours or 3 tabs every 12.

122

123

Clinical pearls - NSAIDs ✓

- 2. Rx ibuprofen – 2400 mg is max dose as supervised by the prescriber.
- Usual Rx dose for post op pain is 400-600 mg every 8 hours. Can go up to 800 mg every 8 hours

123

124

Clinical pearls - NSAIDs ✓

- 3. Use NSAIDs as your "pain reliever" if there is need for anti-inflammatory action as well.
- 4. If no inflammation present or expected, acetaminophen will usually do the trick in mild-moderate pain. 500 mg every 6 hours; max dose 4000 mg over 24 hours

124

5

Clinical pearls - NSAIDs ✓

- 5. NSAIDs and blood thinners - warfarin (Coumadin), clopidogrel (Plavix), Eliquis, Xarelto, others; NSAIDs are anti-platelet as long as in the blood stream. Thus, they can affect bleeding. Use lowest effective dose for shortest period of time.
- I.e. ibuprofen 400 mg three times daily for no more than 5 days. May combine with acetaminophen 500 mg tabs.
- As pain reliever post op after serious surgery, you might want to stick with acetaminophen type products. In moderately-severe pain, hydrocodone c acetaminophen would be preferred over NSAID product.

125

Clinical pearls - NSAIDs ✓

- 6. Be careful in using NSAIDs in Coumadin patients. Enhancement of bleeding could occur.
- 7. Ibuprofen and perhaps other NSAIDs could blunt the cardioprotective actions of daily low-dose aspirin.

126

Clinical pearls - NSAIDs ✓

- 8. In recovering drug addicts, NSAIDs can be used. Any DEA controlled "scheduled" product (narcotics etc) cannot be used.
- 9. In opioid use disorder where you do not want to affect bleeding, acetaminophen is to be used.

127