

ACE Panel Report

Antibiotic Use in Endodontic Infections

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Survey Results

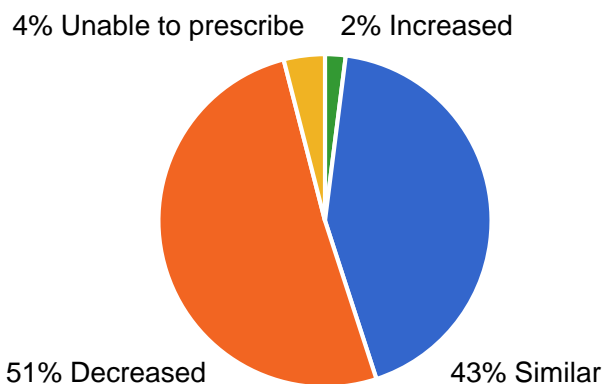
Data reflect the responses of 391 ACE Panel member dentists in the United States.

The most common conditions for which respondents are most likely to prescribe antibiotics in immunocompetent adults

- 96%** for pulp necrosis with symptomatic acute apical abscess and systemic involvement
- 53%** for pulp necrosis with localized acute apical abscess
- 36%** for pulp necrosis with symptomatic apical periodontitis
- 29%** for symptomatic irreversible pulpitis with symptomatic apical periodontitis
- 11%** for symptomatic irreversible pulpitis

This question allowed for multiple answers

Current Antibiotic Prescribing Patterns Compared to 5 Years Ago



Prescribed antibiotics in adult population

- 49%** Amoxicillin 500 mg, three times a day, for 3 to 7 days
- 27%** Penicillin VK 500 mg, four times a day, for 5 to 7 days
- 11%** Amoxicillin - clavunate 875/125 mg, twice a day, for 3 to 7 days
- 7%** Other amoxicillin regimens with a different dose, frequency or duration

Prescribed in adults allergic to penicillin

- 63%** Clindamycin 600 mg day 1, then 300 mg four times a day, for 3 to 7 days (**see below**)
- 14%** Azithromycin 500 mg on day 1, then 250 mg daily on days 2 to 5
- 9%** Cephalexin 500 mg, four times a day, for 7 days
- 9%** Other clindamycin regimens with a different dose, frequency or duration

Clinical Insight: Antibiotic Stewardship for Endodontic Infections

The key to successfully managing an infection of endodontic origin is through proper root canal debridement accompanied by disinfection and abscess drainage when swelling is present. Here are three reasons, in immunocompetent adults, to reserve systemic antibiotics to pulp necrosis associated with acute apical abscess and systemic involvement:

- ❑ Usually necrotic tissue ceases to receive blood supply, therefore systemic antibiotics may not reach the site of infection: thus the importance of debridement and drainage.
- ❑ Frequent, and unnecessary antibiotic use have been shown to increase multidrug-resistant organisms that affects 2 million people yearly and results in 23,000 deaths.
- ❑ **Long term antibiotic use is associated with adverse drug reactions; in particular, Clindamycin can cause *Clostridium difficile* infection**, which affects 453,000 people yearly and results in 29,000 deaths per Center for Disease Control and Prevention.

Segura-Egea JJ, et al. *Int Dent J* 2017;67(4):197-205, Durkin DJ, et al. *JADA* 2017;148(12):878-886, Elkareh, J. (2018) *ADA Dental Drug Handbook: a Quick Reference Chapter 2. Antibiotics*. Chicago, IL: ADA.

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