

## Antimicrobial agent-induced *Clostridium difficile*



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I recently reviewed several dental malpractice complaints alleging the dentist breached the standard of care by indiscriminately prescribing antibiotics—resulting in the patient’s hospitalization due to a *Clostridium difficile* (*C. difficile*) infection. *C. difficile* is a gram-positive, spore-forming rod responsible for approximately 15 to 20 percent of antibiotic-related cases of diarrhea and associated diseases, including: pseudomembranous colitis, toxic colon, and other gastrointestinal diseases—some of which can be fatal.<sup>1</sup>

Disrupting normal colon flora by administering broad-spectrum antibiotics precipitates *C. difficile*-related disease. All antibiotics have the potential to cause this disease, but clindamycin (CLEOCIN®), fluoroquinolones, and other broad-spectrum penicillins and cephalosporins have been implicated most often.

Historically, the at-risk population includes elderly and medically compromised patients who:

- have had a recent course of the above-mentioned broad-spectrum antibiotics; or
- are or have been in hospitals, nursing homes, and other primary and tertiary care facilities where *C. difficile* is more readily spread.

Recently, healthy young individuals—previously considered a low risk population—show increased evidence of susceptibility to this disease.<sup>2</sup> It is important to have a basic understanding of this disease, its symptoms, and the need for judicious intervention when *C. difficile* is suspected.

The single most important modifiable risk factor is limiting exposure to antimicrobial agents most associated with *C. difficile*.<sup>3</sup> Consider this risk when deciding upon a course of antibiotics for your patients—whether treating odontogenic infections or providing antibiotic prophylactic coverage.

*Make the most judicious use of broad-spectrum antibiotics*—prescribe them only when in your professional judgment the diagnosis/patient’s pre-existing conditions supports their use. The overuse of antibiotics leading to the development of resistant bacteria has become a national debate. Careful consideration should be given to each circumstance when deciding whether antibiotics are necessary.

***Any time you prescribe any class of antibiotics, there are potential untoward complications. Make certain you discuss those possible complications with your patient. Emphasize the sense of urgency required of your patient to report complications as soon as they occur. For those patients who indicate severe and/or prolonged diarrhea, discontinue antibiotic therapy immediately, and make a timely referral to a medical doctor and/or the emergency room. Document this complication and your advice in the dental record.***

<sup>1</sup> Hurley BW, Nguyen CC. The spectrum of pseudomembranous enterocolitis and antibiotic-associated diarrhea. Arch Intern Med 2002; 162:2177-84

<sup>2</sup> Severe *Clostridium difficile*-associated disease in populations previously at low risk: four states, 2005. MMWR Morb Mortal Wkly Rep 2005; 54(47):1201-5.

<sup>3</sup> Blossom, David B. et al. The Changing Spectrum of *Clostridium Difficile*-Associated Disease. The Journal of the American Dental Association, Volume 139, Issue 1, 42-47.

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