

### ***Clostridium Difficile* (3/08)**

Blossom DB, Lewis FMT, McDonald LC. The changing spectrum of *Clostridium difficile*–associated disease: implications for dentistry. J Am Dent Assoc 2008;139:42–47.

*Clostridium difficile* is a gram positive anaerobic spore-forming bacterium that causes a wide range of diseases of the gastrointestinal tract ranging from asymptomatic colonization to a life-threatening condition known as “toxic megacolon.” It is best known for its association with antimicrobial-associated diarrhea.

The authors of this article describe two previously published cases of *Clostridium difficile*–associated disease (CDAD) to highlight its varied clinical manifestations. A 48-year-old woman had mild CDAD after receiving antibiotics after undergoing endodontic surgery. She took metronidazole, and her *C. difficile* infection resolved. A 31-year-old pregnant woman developed severe CDAD after receiving antibiotics for a urinary tract infection. She underwent surgery to remove part of her colon, but her condition worsened, and she died. Because dentists often prescribe antimicrobial agents to treat or prevent dental infections, dentists should be aware of this disease. Until recently, these agents also were recommended as prophylaxis for infective endocarditis during invasive oral procedures.

**An important risk factor for CDAD and recurrent CDAD is antimicrobial agent exposure. Dentists should be aware of CDAD to help prevent its spread and facilitate early recognition and treatment to minimize severe outcomes.**



**DECS Comment:** *Clostridium difficile* is spread by the fecal-oral route. Infection can occur if individuals touch items or surfaces that are contaminated with feces and then touch their mouth or mucous membranes. Health-care personnel can spread the bacteria to other patients or contaminate surfaces through hand contact. Therefore, handwashing is a primary factor in preventing transmission. Antimicrobial exposure is a major risk factor for disease. It is estimated that greater than 90% of *C. difficile* infections occur during or after antimicrobial therapy. The most important modifiable risk factor associated with CDAD is exposure to antimicrobial agents. Traditionally, cephalosporins, penicillins, and clindamycin have been associated with the disease, but other antimicrobial agents have also been implicated. Hospital-based studies have shown that limiting the use of antimicrobial agents can decrease the rate of hospital-acquired CDAD. Patients will still require the use of antimicrobial agents; however the key will be to use the antimicrobial agent with the narrowest spectrum of antibacterial activity for the shortest duration possible. While the incidence of hospital-associated *C. difficile* can be decreased by using strategies such as good handwashing, contact precautions, and environmental surface disinfection, judicious antimicrobial use may be the most important means to decrease the risk of acquiring CDAD among outpatients.