To the Editor:

Clostridium difficile-associated diarrhea and colitis is frequently noted in patients receiving antibiotic therapy in hospitals and chronic-care facilities.2 The organism is usually acquired nosocomially through human contact or from the hospital environment that is frequently contaminated with C difficile spores.3 Immunoblot typing has been used to demonstrate nosocomial infection.4

As part of an investigation of an outbreak of C difficile-associated diarrhea, we studied the possible role of rectal thermometers as a source of nosocomial transmissions. Over a one-month interval, a total of 72 electronic rectal thermometers and 16 electronic oral thermometers were tested for C difficile. The portion of the handle nearest the base of the disposable plastic temperature probe sheath was sampled using a sterile moist swab that was then inoculated into chopped meat broth containing cefoxitin (40 μg/ml) to suppress contaminants, and sodium taurocholate (1 mg/ml) to promote spore germination. After 24 hours of incubation, the broths were screened for C difficile antigen (Marion Latex Test), and those that tested positive were further evaluated by C difficile isolation and identification.

Fifteen of 72 rectal thermometers (20.8%) were positive for C difficile antigen, and of these, seven were confirmed by isolation and identification of the organism. The remaining eight specimens were overgrown with enterococcus, which interfered with the attempted isolation of C difficile. None of the oral thermometers were positive for C difficile by the antigen screen.

Electronic rectal thermometers, which are used extensively in many institutions, are designed for multiple patient use. Our study shows that the handles often become contaminated with C difficile spores. Although the temperature probe is covered by a disposable plastic sheath that is changed between each patient, the newly installed sheath may be easily contaminated by hand carriage of spores from the handle of the thermometer.

Insertion of a temperature probe carrying C difficile spores directly into the rectum might be a mechanism of nosocomial transmission of the organisms between patients. Thorough cleaning of the handle of the thermometer between patient use may help reduce the transmission of C difficile by this route.

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REFERENCES