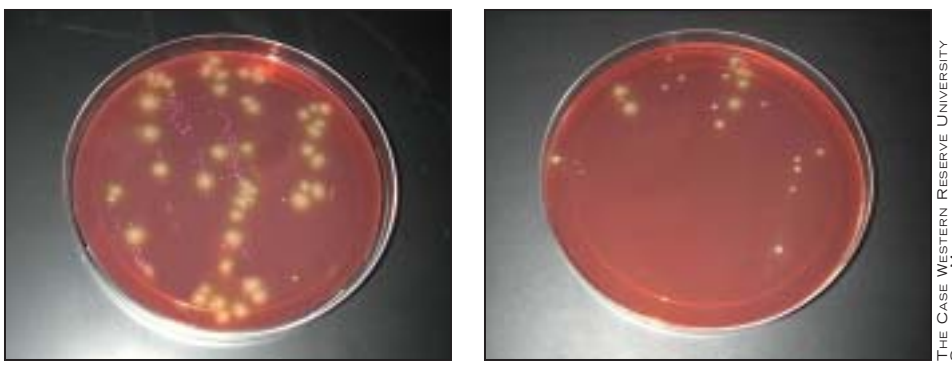
Diarrhea May Resolve, but *C. difficile* Spores Remain

BY BRUCE K. DIXON
Chicago Bureau



The Case Western Reserve University School of Medicine

Hand imprint cultures taken after contact with a CDAD patient's abdomen (left) and chest (right) reinforce the importance of wearing gloves when conducting exams.

Patients with *Clostridium difficile*–associated disease frequently are contaminated on multiple skin sites that may remain a source of transmission even after the diarrhea has resolved.

In this study of 27 patients with *C. difficile*–associated disease, spores were transmitted to the gloved hand of an investigator after contact with various patient skin areas, including patients' hands and forearms, in addition to the groin, abdomen, and chest, said Dr. Curtis J. Donskey, director of infection control of the Veteran's Affairs Medical Center, Cleveland, and his associates.

"We've illustrated that *C. difficile* is widely distributed over the skin of patients and that health care workers should be wearing sterile gloves when touching these patients, even for such apparently minor contact as adjusting an intravenous catheter," Dr. Donskey said in an interview.

The 27 male patients had received a diagnosis of *C. difficile*–associated disease (CDAD) during the period from October 2006 to January 2007. Their ages ranged from 50 to 91 years (mean 68), and 12 were nursing home residents.

Patients' clinical conditions included diabetes mellitus (11), cancer (3), end-stage renal disease (3), previous CDAD (8), fecal incontinence (3), and dementia (4); several patients had multiple conditions. All patients had received antibiotics in the previous 3 months, the investigators said (Clin. Infect. Dis. 2008;46:447-50).

Within 3 days of the diagnosis of CDAD, skin cultures were obtained by applying premoistened, sterile rayon swabs to each patient's groin, abdomen, chest, and forearm. Culture specimens also were obtained from the surface of one of the patient's hands.

Of the 27 patients, 35% had spores on the hand, 20% on the forearm, 40% on the chest, 55% on the abdomen, and 60% on the groin.

To determine whether spores on skin could be transmitted to the hands of health care workers, an investigator donned sterile gloves and contacted the same skin sites of the final 10 subjects enrolled. After each skin contact, the gloved hand was imprinted onto appropriate agar plates. Contamination percentages were similar: hand and chest, 40%; forearm, 30%; abdomen, 50%; and groin, 70%.

All but two patients had contamination on more than one skin site, and the number of colonies acquired on gloves ranged from 1 to more than 100, Dr. Donskey and his associates said, adding that contact with the groin typically yielded the highest number of colonies.

A total of 17 patients with CDAD and confirmed *C. difficile* on the chest and/or abdomen had follow-up culture specimens taken on treatment days 5-14. Of those 39 culture specimens, 31 were collected after resolution of diarrhea, which occurred 3-7 days into treatment. The median time from resolution of diarrhea to detection of negative skin cultures was 7 days, and 10 of the 17 patients remained hospitalized and had culture specimens taken after 9-14 days of treatment. Of those, six had positive chest and/or abdominal culture results, although diarrhea had resolved in all of these patients by day 7, the investigators said.

"We may not be keeping these patients in isolation as long as we should. The current guidelines for *C. difficile* management suggest that you can take patients out of isolation once their diarrhea has resolved, but our paper implies that it may be reasonable to continue isolation beyond that point," Dr. Donskey told this news organization.

The authors concluded that the data outlined in their brief report confirm that the skin of CDAD-affected patients provides a major potential source of *C. difficile* transmission.

"Our findings reinforce the importance of wearing gloves when contacting the skin of CDAD-affected patients," said Dr. Donskey. "We observe that health care workers will use careful precautions when doing detailed exams on patients, or when examining their abdomen or groin, but they may be less likely to comply with the recommendations to wear gloves when touching patients' hands or arms, thus risking the spread of *C. difficile*."

This study was supported by a grant from the Department of Veterans Affairs Advanced Research Career Development Award.

Dr. Donskey has received research funding from Ortho-McNeil Inc., Merck & Co., ViroPharma Inc., Elan Pharmaceuticals Inc., and IPSAT (Intestinal Protection System in Antibiotic Treatment) Therapies Ltd., and is on the speakers bureaus of Elan and Ortho-McNeil. ■

Many Adults Blasé About Receiving Routine Immunizations

BY HEIDI SPLETE
Senior Writer

WASHINGTON — Approximately half of 1,005 American adults surveyed by the National Foundation for Infectious Diseases said that they were unconcerned that either they or a family member will become infected with a vaccine-preventable disease, despite the fact that more than half a million U.S. adults die each year from such diseases, reported Dr. Kristin L. Nichol, who presented the survey findings at a press conference.

"Americans don't know much about the vaccines available to protect them, and they have too little concern about getting these diseases," said Dr. Nichol, who serves as chairwoman of the advisory committee of the National Coalition for Adult Immunization.

"Another interesting but not too surprising finding was that most people say they would get a vaccine if their doctor recommends it," said Dr. Nichol, a professor of medicine at the University of Minnesota, Minneapolis. Specifically, 87% of the survey respondents said they would be either "somewhat likely" or "very likely" to get a vaccine based on a doctor's recommendation.

Although 49% of the respondents could name influenza as a vaccine-preventable illness, awareness dropped drastically for other vaccine-preventable illnesses, ranging from 18% who named pneumonia to only 3% who named acellular pertussis and meningitis.

Adult vaccinations should be part of the overall discussion of wellness, along with nutrition, physical activity, and preventive screenings, said Dr. Anne Schuchat, director of the National Center for Immunization and Respiratory Diseases at the Centers for Disease Control and Prevention in Atlanta.

Dr. Schuchat presented data from a first-time survey of immunization coverage in adults. "We have a long way to go to reach the targets that we have set for the nation," she said.

A National Immunization Survey was conducted of approximately 7,000 adults aged 18 and older in the summer of 2007. The survey respondents were selected at random and contacted by phone, similar to the annual survey of childhood vaccination conducted by the CDC and other agencies.

Overall, 69% of adults aged 65 years and older said they had received a flu vaccination during the 2006-2007 flu season. In addition, 66% said they had received pneumococcal vaccinations, and 44% said they had received a tetanus shot within the past 10 years.

Coverage was especially low for two newly licensed vaccines, Dr. Schuchat said. The Tdap vaccine, which is recommended for adults aged 18-64 years to prevent tetanus, diphtheria, and acellular pertussis was licensed in 2005, but only 2% of the survey respondents reported that they had received this vaccine.

Similarly, approximately 2% of the respondents said that they had received the shingles vaccine, which was licensed in 2006 and approved for adults aged 60 years and older.

Approximately 10% of the female respondents said that they had received at least one of the three-dose series of the HPV vaccine to prevent cervical cancer, which was licensed in 2006 and approved for girls and women aged 9-26 years.

"We need doctors and nurses and health care providers to know about these new tools and to take advantage of them themselves," Dr. Schuchat said.

Flu vaccination among health care workers currently averages about 42%, she noted.

Through its part B, Medicare covers the pneumococcal polysaccharide vaccine, the influenza vaccine, and (for high-risk adults) the hepatitis B vaccine, and it covers most other adult vaccinations through part D, including the shingles vaccine. It is important to remind adult patients that many vaccinations are covered by insurance, Dr. Schuchat said.

Younger adults often have insurance coverage for preventive vaccines, Dr. Schuchat added. She cited a recent survey of insurance companies in which more than 90% covered the influenza and pneumococcal vaccines and most covered at least five vaccines for adults. "We strongly encourage insurance companies to cover vaccines, because they are cost effective and keep you healthy," she said.

Finding time to coordinate adult vaccination presents another challenge. "If we are going to try to improve immunization rates in the physician practice, it needs to be a team effort," said Dr. Robert H. Hopkins Jr., an internal medicine physician and pediatrician at the University of Arkansas, Little Rock.

He suggests increasing in-office adult vaccination by having nurses ask patients about their vaccination status and by providing flyers in the office to educate patients about the preventive vaccines that are recommended for them.

In addition, consider alternative settings for vaccinations, such as pharmacies or workplaces, suggested Dr. Hopkins, who also serves as governor of the Arkansas chapter of the American College of Physicians. "But we need to make sure that the information gets back to the health care provider so we can continue to coordinate care," he emphasized.

The bottom line is that adults must get past the mentality that vaccines are for kids, Dr. Schuchat said, "Vaccines are for everybody."

For more vaccination information, visit www.cdc.gov. ■