

Medical News

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Surveillance for Bloodstream Infections in Hemodialysis Centers

The CDC is recruiting outpatient hemodialysis centers for participation in a new surveillance system for bloodstream and vascular access infections. Hospital dialysis centers are also invited to participate if they treat outpatients in their units.

Bacterial infections are known to be a threat to hemodialysis patients, and frequent hospitalizations and antimicrobial use promote the occurrence of drug resistance among bacterial pathogens. However, there are few studies of rates of bacterial infections in hemodialysis patients, and there are no standardized methods for ongoing data collection. The CDC has created a national surveillance system, Surveillance for Bloodstream and Vascular Access Infections in Outpatient Hemodialysis Centers.

The procedures for data collection are simple, and the information collected will allow calculation of infection rates that can be used to improve care for these vulnerable patients. A protocol describing the system and information for enrolling can be received by contacting Jerome Tokars, MD, MPH, or Elaine Miller, RN, MPH, Hospital Infections Program, Centers for Disease Control and Prevention, 1600 Clifton Rd, Mailstop E-69, Atlanta, GA 30333; fax: (404) 639-6459; telephone: (404) 639-6422.

Bacterial Contamination of the Hands During Routine Patient Care

Cross-transmission of microorganisms by the hands of healthcare workers is considered the main route of spread of nosocomial infections. Pittet and coinvestigators from the Department of Internal Medicine, University of Geneva Hospital, Switzerland, studied the process of bacterial contamination of healthcare workers' hands during routine patient care in a large teaching hospital. Structured observations of 417 episodes of care were conducted by trained external observers. Each observation period started after a hand-cleansing procedure and ended when the healthcare worker proceeded to clean his or her hands or at the end of a coherent episode of care. At the end of each period of observation, an imprint of the five fingertips of the dominant hand was taken, and bacterial colony counts were quantified. Regression methods

were used to model the intensity of bacterial contamination as a function of method of hand cleansing, use of gloves during patient care, duration and type of care, and hospital ward.

Bacterial contamination increased linearly with time on ungloved hands during patient care (average, 16 colony-forming units [CFUs]/min; 95% confidence interval, 11-21 CFUs/min). Patient-care activities independently associated with higher contamination levels were direct patient contact, respiratory care, and handling of body-fluid secretions ($P < .05$). Simple hand washing before patient care, without hand antisepsis, also was associated with higher colony counts (52 CFUs; $P = .03$).

The authors concluded that the duration and type of patient care affect hand contamination. Furthermore, because hand antisepsis was superior to hand washing, intervention trials should explore the role of systematic hand antisepsis as a cornerstone of infection control to reduce cross-transmission in hospitals.

FROM: Pittet D, Dharan S, Touveneau S, Sauvan V, Perneger TV. Bacterial contamination of the hands of hospital staff during routine patient care. *Arch Intern Med* 1999;159:821-826.

Detection of VRE by PCR

Jayaratne and Rutherford from McMaster University, Ontario, Canada, have evaluated a polymerase chain reaction (PCR) method for the rapid detection of vancomycin-resistant enterococci (VRE) in nosocomial surveillance specimens. Detection of the *vanA* and *vanB* genes by multiplex PCR using 657 specimens that showed presumptive growth of VRE on bile esculin azide agar containing 6 mg of vancomycin/L was compared to the conventional method. The diagnostic values for the PCR compared to the phenotypic method were as follows: 99.8% specificity, 95.4% sensitivity, 98.8% positive predictive value, and 99.3% negative predictive value. The average cost per test for PCR is \$8.26, compared to \$9.45 for the phenotypic method. The average turnaround time for detecting a VRE is 48 hours for PCR, compared to 96 hours for the conventional method.

FROM: Jayaratne P, Rutherford C. Detection of clinically relevant genotypes of vancomycin-resistant enterococci in nosocomial surveillance specimens by PCR. *J Clin Microbiol* 1999;37:2090-2092.