Wash Your Hands After Using Computers

BY BETSY BATES
Los Angeles Bureau

LOS ANGELES — Computer keyboards and keyboard covers harbored vancomycin-resistant *Enterococcus faecium* and methicillin-resistant *Staphylococcus aureus* for more than 24 hours, during which time the bacteria easily spread to bare, and in some cases, gloved hands, a Northwestern University study has found.

The findings strongly suggest the need for health care providers to wash their hands after using computers, particularly in hospital settings and around immunocompromised patients, said Gary A. Noskin, M.D., an infectious disease specialist at Northwestern University and director of health care epidemiology and quality at Northwestern Memorial Hospital in Chicago.

Electronic patient records have ushered more computers into examining and patient rooms, heightening the importance of their role as a "viable reservoir for pathogenic bacteria," in the words of the study presented in poster form at the annual meeting of the Society for Healthcare Epidemiology of America.

Investigators inoculated standard computer keyboards and Dell computer keyboard covers with isolates of vancomycin-resistant *E. faecium* (VRE), methicillin-resistant *S. aureus* (MRSA), and *Pseudomonas aeruginosa* (PSAE).

Samples obtained at various time intervals determined that both VRE and MRSA survived 24 hours, while PSAE was less hardy, growing for 5 minutes on keyboard covers and 1 hour on keyboards.

Bacteria transmission to volunteers' hands increased with the number of times they touched the keyboards. For example, MRSA resulted in recovery of bacteria on hands 92% of the time with 5 touches, versus 42% of the time after 1 touch of the keyboard. Rates for VRE were 50% and 22% after 5 touches and 1 touch, and with PSAE, 18% and 9%, respectively. Bare hands were more likely than were gloved hands to acquire VRE and MRSA, 67% versus 7%, and 80% versus 67%, respectively.

Investigators then conducted an experiment to see whether two quaternary ammonium–based germicides commonly used in health care settings could eliminate bacterial contamination on keyboards and keyboard covers. Virex II 256 (Johnson Wax Professional, Sturtevant, Wisc.), when used as directed with a 10-minute dwell time, successfully disinfected both keyboards and keyboard covers. Sani-Wipes (PDI, Upper Saddle River, N.J.), used as directed with a 5-minute dwell time, disinfected keyboards but failed to eliminate VRE and PSAE on keyboard covers.

Dr. Noskin and his associates recommended hand washing after contact with computers. It is unknown how keyboards and keyboard covers should be disinfected, since there's "just no data" on how frequent germicide use might impact their durability, circuitry, and electronics, he said in a telephone interview following the meeting. ■

Varicella Hospitalization Down by 88%

Hospitalizations for varicella have declined 88% since 1994-1995, with the biggest decrease seen among infants.

Because infants are not eligible to receive the vaccine, "The decline reflects reduced force of varicella infection in the population (i.e., herd immunity)," as do declining rates among adults and adolescents, reported Dr. Fangjun Zhou, Ph.D., and associates (JAMA 2005;295:797-802).

Dr. Zhou, of the Centers for Disease Control and Prevention, examined varicella treatment codes extracted from a national health plan database of 4 million consumers, from 1994-2002. He found an overall decline in varicella hospitalization, from 2.3/100,000 to 0.3/100,000 (88%).

Hospitalization rates declined for every age group: 100% for infants; 91% for children aged 9 years and younger; 92% for children aged 10-19 years; and 78% for adults aged 20-49 years. Ambulatory visits for varicella also fell sharply, declining 59% over the period.

National spending on varicella hospitalizations and ambulatory visits fell from $85 million in 1994-1995 to $22 million in 2002.

—Michele G. Sullivan