

Computer Keyboards Spread More Than Words

By Steven Reinberg, HealthDay Reporter
HealthDay

MONDAY, April 11 (HealthDay News) -- Harmful bacteria can linger on computer keyboards in hospitals, making it easy for the germs to spread to patients, a new study finds.

To combat the problem, a research team led by Dr. Gary Noskin, medical director for healthcare epidemiology and quality at Northwestern Memorial Hospital in Chicago, suggests that those using multi-user computers should wash their hands after each use. In addition, computer keyboards should be disinfected regularly.

Another expert, Dr. Philip Tierno, director of clinical microbiology and immunology at New York University Medical Center and author of *The Secret Life of Germs*, goes even further and advises that computer keyboards in schools and libraries should be disinfected often to prevent the spread of harmful bacteria.

Computer use in hospitals and other health-care facilities is multiplying rapidly, Noskin said. "We wanted to determine whether keyboards could be a reservoir for the transmission of bacteria that people are afraid of in hospitals," he added.

In the study, Noskin's group looked at three bacteria commonly found in hospitals: vancomycin-resistant *Enterococcus faecium* (VRE), methicillin-resistant *Staphylococcus aureus* (MRSA) and *Pseudomonas aeruginosa* (PSAE).

VRE and MRSA are bacteria that have developed a resistance to antibiotics, such as vancomycin and methicillin, which are commonly used to treat bacterial infections.

While VRE and PSAE seldom cause problems except in hospitalized patients whose immune systems are compromised, there have been outbreaks of MRSA skin infections in otherwise healthy people. This so-called community-acquired MRSA is resistant to antibiotics and can cause skin boils and blood poisoning.

The researchers put each bacterium on keyboards and keyboard covers to see how long they survived. They also typed on the keyboards to see if the bacteria could be transferred to the fingertips.

Noskin's team found that VRE and MRSA could survive up to 24 hours after being placed on keyboards or keyboard covers. However, PSAE could survive only up to one hour on the keyboard and five minutes on the keyboard cover.

The study also found that the more contact with contaminated keyboards, the more likely the bacteria transmitted to the hands, from 42 percent to 92 percent of the time for MRSA, 22 percent to 50 percent for VRE, and 9 percent to 18 percent for PSAE.

The findings were to be presented April 11 at the Society for Healthcare Epidemiology of America's scientific session, in Los Angeles.

Effective hand washing can prevent the spread of these bacteria, Noskin said. "Health-care workers, after being in contact with keyboards, need to really wash their hands before they come in contact with patients."

The researchers also tested the effectiveness of disinfectants commonly used in hospitals to clean the computers. The most effective disinfectant was one where the solution remains on the keyboard for 10 minutes before it's wiped off.

Noskin doesn't think it's realistic to make computer keyboards sterile. "We live in an era of bacteria, and they are all over our environment," he said.

Tierno agrees that hand washing is most important, but he also thinks that keyboards should be disinfected after each use. "This is not new to me," he said. "In my office, we use a computer keyboard that has an antibacterial product in it, which kills organisms on the surface. Despite that, we still use disinfectant."

In hospitals, Tierno said, cutting down on the spread of bacteria from person to person is beneficial. But preventing the passage of antibiotic-resistant bacteria such as MRSA outside the hospital is equally important, he said.

Tierno believes that any computer keyboard that is used by many users should be disinfected often.

"Community-acquired MRSA, where individuals in sporting venues and non-hospital conditions, in gyms, in schools, in areas where multiple users have access to computers, they, too, should be disinfected, because we can transfer MRSA quite easily by contact," he said.

More information

The National Library of Medicine can tell you more about [infection control](#).

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