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Workplace Worry: Bringing Home the Bacteria

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Hospitals are crawling with germs. Each year more and more hospitalized patients harbor strains of bacteria resistant to conventional antibiotics — a circumstance thought to be spurred by overreliance on antibiotics and overworked healthcare workers who fail to follow basic isolation precautions or even wash their hands. As every nurse knows, patients are clearly at risk of infection.

But what about the general public or the loved ones of nurses who bring methicillin-resistant *Staphylococcus aureus* (MRSA) home on their uniforms or stethoscopes, in their nostrils, or on their hands? If nurses carry hidden dangers, shouldn't they be cultured and treated for bad bugs?

Since it was first detected in 1961, MRSA has grown more common each year. Its prevalence, however, varies from hospital to hospital and even from unit to unit within the same hospital. A recent survey reported in *Emerging Infectious Diseases* estimated only 20% of patients in hospitals with fewer than 200 beds harbored MRSA, while more than 40% did so in large urban hospitals. Overall, ICUs and long-term care units claim the highest rates — often exceeding 50%. In hospitals, MRSA is typically spread from patient to patient on the hands and stethoscopes of healthcare workers, including nurses.

Nurses expect to come into contact with MRSA by touching infected patients or their dressings, catheters, and linens. But germs hide in patients' rooms more than many nurses realize. A 1997 study of patients colonized or infected with MRSA published in *Infection Control and*

Hospital Epidemiology found the beds, floors, linens, overbed tables, and blood pressure cuffs of 73% of the infected patients and 69% of the colonized patients were contaminated. Forty-two percent of hospital personnel without direct contact with patients had MRSA on their gloves after they touched contaminated items in infected patients' rooms.

No wonder nurses draw criticism for wearing their unsanitary uniforms home from their jobs in hospitals, especially if they stop to buy groceries along the way. A study of nurses in the United Kingdom published last year in the *Journal of Hospital Infection* found *S. aureus*, *Clostridium difficile*, and vancomycin-resistant *Enterococcus* cling to nurses' uniforms following the end of their shifts; they also linger on the unlaundered uniforms of nurses who report to work the next day. In a study of American nurses reported in *Emerging Infectious Diseases*' March-April 2001 issue, researchers cultured MRSA on nurses' uniforms or cover gowns after they completed their morning care tasks on patients who had MRSA in their wounds or urine.

But not every nurse poses a direct threat to the public. The spread of antibiotic-resistant bacteria from hospitals to communities requires special circumstances, says Georgia Dash, RN,

MS, CIC, president of the Association for Professionals in Infection Control and Epidemiology, Inc., and the director of epidemiology and infection control at the Medical College of Pennsylvania Hospital in Philadelphia. "Nurses who work in general medical units who go home in their scrubs are not a risk to the public," she says. Even so, Dash insists nurses wear clean uniforms laundered in bleach; and she prefers nurses go straight home after work, change out of their uniforms, and shower.

Instead, transmission of MRSA requires nurses to come in contact with immune-compromised people who have portals of entry for bacteria, such as open wounds, IV accesses, or urinary catheters. Many nurses pull double duty, caring for critically ill patients in hospitals and helping ailing loved ones at home — elderly parents, friends with cancer, or sick infant grandchildren. To minimize the risk of MRSA transmission, Dash recommends nurses follow basic precautions — thoroughly washing their hands and changing out of their uniforms — before caring for sick loved ones.

Though they carry the risk of transmitting germs, nurses are seldom cultured for organisms, except during difficult-to-control outbreaks. Dash advises against widespread

culturing for MRSA because test results can be difficult to interpret. A positive result means a nurse harbored MRSA at the time of the culture, but the bacteria could be transient. Other nurses might remain colonized yet pose scant risk of infecting others, she says.

Culturing for MRSA carries other risks to nurses, Dash says. Until their cultures become negative, nurses who test positive for the bacteria would be unable to work.

But an infection control nurse, who asked to remain nameless, thinks hospitals frown on culturing nurses for MRSA because of the economics of the nursing shortage. "Hospitals don't want to screen nurses more often because they don't want to find MRSA and force nurses with positive cultures to stay away from work," she says. "They do everything they can to keep units open and nurses working."

Dash wants greater attention paid to finding colonized and infected patients. "The best method for preventing the spread of MRSA," she says, "is to identify infected patients, isolate them, culture their hospital roommates, and then be very stringent about following isolation precautions."

Jeffrey Zurlinden, RN, MS, is a contributing writer for Nursing Spectrum.

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