

Nurses' scrubs often contaminated with bad bugs

October 27 2016

Bad bugs readily spread from patients in the intensive care unit (ICU) to nurses' scrubs and the room, according to research being presented at IDWeek 2016. The sleeves and pockets of the scrubs and the bed railing were the most likely to be contaminated.

The study tracked the transmission of bacteria known to be particularly troublesome in hospitals, including those such as methicillin-resistant *Staphylococcus aureus* (MRSA), *Klebsiella pneumoniae* and *Pseudomonas aeruginosa*, which are resistant to many antibiotics.

"We know there are bad germs in hospitals but we're just beginning to understand how they are spread," said Deverick J. Anderson, MD, MPH, lead author of the study and associate professor of medicine in the Division of Infectious Diseases at Duke University Medical Center, Durham, N.C. "This study shows we need to be 100 percent diligent about infection control strategies." To prevent spread of these bugs, he notes three components are especially important: hand washing after all patient encounters; using disposable gloves and gowns when treating patients with specific infections, and meticulous and regular cleaning of patients' rooms.

Researchers set out to learn more about the spread of bacteria leading to hospital-acquired infections (HAIs) by focusing on the triangle of transmission in the hospital: patient, environment (room) and nurse. HAIs affect one in 25 hospitalized patients on any given day, and almost half of HAIs occur in the ICU, according to the Centers for Disease

Control and Prevention (CDC).

The study, funded by CDC, included 167 patients who received care from 40 [nurses](#) during three separate 12-hour ICU shifts, for a total of 120 individual shifts. All nurses cared for two or more patients per shift and used new scrubs for each shift. Researchers took samples (cultures) twice a day from the nurses' scrubs, patients and the patients' rooms and found 22 (18 percent) transmissions of the same strain of bacteria, confirmed by microbiological and molecular analysis. Of those transmissions: 6 (27 percent) were from patient to nurse, 6 (27 percent) were from the room to the nurse and 10 (45 percent) were from patient to the room. The types of bacteria transmitted were: 7 methicillin-susceptible *Staphylococcus aureus* (MSSA), 5 MRSA, 3 *Stenotrophomonas maltophilia* (SM), 3 *Acinetobacter baumannii* complex (ABC), 2 *Klebsiella pneumoniae* (KP) and 2 *Pseudomonas aeruginosa* (PS).

Researchers cultured the sleeves, pockets and midriff of the nurses' scrubs and found the pockets and sleeves were most likely to be contaminated. They cultured the supply cart, bed and bed rails and found the latter most likely to be contaminated.

The researchers did not identify any bugs that had spread from nurses to patients, but note that it likely occurs in hospitals. "We think it's more common than not that these bugs spread to [patients](#) in hospitals because of temporary contamination of healthcare workers," said Dr. Anderson.

He said that they found the bacteria in the room no matter when they took the cultures, even though the rooms were cleaned daily. That suggests cleaning of the room while the patient is still there may not be as meticulous as it is after a patient is discharged, and that needs to change, he said.

Provided by Infectious Diseases Society of America

Citation: Nurses' scrubs often contaminated with bad bugs (2016, October 27) retrieved 30 January 2023 from <https://medicalxpress.com/news/2016-10-nurses-contaminated-bad-bugs.html>

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