

**To Print:** Click your browser's **PRINT** button.

**NOTE:** To view the article with Web enhancements, go to:  
<http://www.medscape.com/viewarticle/581407>



## Common Contamination of Gloves and Gowns with Methicillin-Resistant *Staphylococcus aureus* and Vancomycin-Resistant Enterococci during Routine Patient Care

Tamar F. Barlam, M.D.; Dennis L. Kasper, M.D.

AccessMedicine from McGraw-Hill. 2008; ©2008 The McGraw-Hill Companies  
All rights reserved. From Tintinalli's Emergency Medicine  
Posted 10/02/2008

### Content

To prevent transmission of nosocomial infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE), the Centers for Disease Control and Prevention and the Society for Healthcare Epidemiology of America recommend contact precautions. Health care workers (HCWs) caring for patients infected or colonized with MRSA and/or VRE must wear gloves and gowns with any patient contact and must practice hand hygiene before and after patient care. Although the use of gloves and gowns as part of a broader infection-control policy has been shown to reduce nosocomial transmission, the specific role of this intervention is poorly understood.

Snyder and colleagues (2008) evaluated rates of and possible risk factors for detection of MRSA and VRE on the gowns and gloves of HCWs during routine patient care activities. The study was conducted in the medical intensive care unit at the investigators' urban tertiary care medical center on randomly chosen dates in February, August, and September 2007. HCWs were approached immediately before they provided nonemergent care for patients infected or colonized with MRSA and/or VRE. Samples for culture were taken from the hands of HCWs before gloving; routine activities were observed; when routine activities were completed, the gloves and gown were sampled. The hands of HCWs were cultured after glove and gown removal but before hand hygiene.

Of 137 HCWs included in the study, 38 cared for patients positive for both MRSA and VRE, 43 cared for patients positive for MRSA only, and 56 cared for patients positive for VRE alone. In all, 24 HCWs (17.5%; 95% CI, 11.6-24.4%) acquired MRSA or VRE on their gloves, gown, or both. On univariate analysis, significant risk factors for acquiring MRSA or VRE included HCW presence in the room of a patient with a percutaneous endoscopic gastrostomy and/or jejunostomy tube, HCW contact with the endotracheal tube or tracheostomy site of the patient, and HCW contact with the head and/or neck of the patient. The amount of time spent in the room was not associated with detection of MRSA or VRE. No cultures of hands were positive for VRE after clinical care, but MRSA was detected on the hands of a significant number of HCWs after removal of gloves and gowns.

This study demonstrates that gloves and gowns commonly become contaminated with MRSA and/or VRE during routine care of patients. Contact precautions and hand hygiene before and after contact with patients colonized or infected with MRSA and/or VRE are appropriate and are likely to prevent transmission of antibiotic-resistant organisms within a hospital.

### References

- Snyder GM et al: Detection of methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant enterococci

on the gowns and gloves of healthcare workers. *Infect Control Hosp Epidemiol* 29:583, 2008

**Tamar F. Barlam**, M.D., Associate Professor of Medicine, Boston University School of Medicine, Boston.

**Dennis L. Kasper**, M.D., William Ellery Channing Professor of Medicine, Professor of Microbiology and Molecular Genetics, Harvard Medical School; Director, Channing Laboratory, Department of Medicine, Brigham and Women's Hospital, Boston.

---