The recently published guideline for the use of alcohol hand antisepsis states that "If hands are not visibly soiled, use an alcohol-based hand rub for routinely decontaminating hands (IA). Alternatively, wash hands with an antimicrobial soap . . . (IB)."[3] Systematic disinfection before entering and leaving a patient's room complies with this guideline and, as recommended, might be a good educational means to improve hand washing, as noted by Voss et al.[1] In the same guideline, the technique recommended for hand disinfection is stated: "When decontaminating hands with an alcohol-based hand rub, apply product to palm of one hand and rub hands together, covering all surfaces of hands and fingers, until hands are dry (IB)."[3] No mention is made of time or of the quantity of alcohol to be used because too few data are given in the literature. The guideline concludes, "The efficacy of alcohol-based hand-hygiene products is affected by several factors, including the type of alcohol used, concentration of alcohol, contact time, volume of alcohol used, and whether the hands are wet when the alcohol is applied. The ideal volume of product to apply to the hands is not known and may vary for different formulations."[3]

Although the "Frequent use of alcohol-based formulations for hand antisepsis can cause drying of the skin unless emollients, humectants, or other skin-conditioning agents are added to the formulations,"[3] our study clearly shows that this is not true in our setting and that alcohol spray has had only a few adverse reactions. The only goal of this study was to demonstrate that a sprayer system may improve compliance with alcohol hand antisepsis. Since the publication of this study, more than 3,000 beds at the university hospital in Marseilles have been equipped with this sprayer. A study of the impact of this system on nosocomial infections is under way.

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## Use of Glycopeptides at a French Teaching Hospital

**To the Editor:**

Since the emergence of methicillin-resistant *Staphylococcus aureus* (MRSA), glycopeptides have been the only uniformly effective treatment for staphylococcal infection. However, vancomycin exposure has been a risk factor for infection with vancomycin-resistant enterococci, and is associated with decreased susceptibility of *S. aureus* to vancomycin.[1,2] Prudent use of glycopeptides is essential to prevent further emergence of glycopeptide resistance in gram-positive bacteria. Using the guidelines issued by the Hospital Infection Control Practices Advisory Committee (HICPAC),[3] we attempted to determine the appropriateness of glycopeptide prescribing patterns at our institution. This study was conducted at a 1,560-bed university teaching hospital. Standard pharmacy protocol requires that all glycopeptide orders be rewritten every 5 days, and teicoplanin has been restricted so that the approval of an infectious disease physician is required. A prospective chart review was conducted, and 100 consecutive orders for oral and intravenous glycopeptides were screened for appropriateness of use and dose. Clinical and laboratory information was collected for each new course of glycopeptide treatment. Empiric therapy was defined as the administration of glycopeptides without a microbiological diagnosis at the time of ordering.

A total of 79 orders of vancomycin and 21 orders of teicoplanin were evaluated during the study period. Patients receiving a glycopeptide were predominantly male (67%), with ages ranging from 0 to 91 years. Forty-one glycopeptide orders originated from medical specialties, 32 from the intensive care unit, and 18 from surgical specialties; 9 were for outpatients. Nine orders were oral prescriptions. Glycopeptides were used empirically in 28 courses and prophylactically in 11 (vancomycin only). Sixty-one patients had a microbiological diagnosis. For 75 patients, use was for hospital-acquired infections. Five orders were for patients with gram-positive infections who had a history of beta-lactam allergy. The frequency of appropriate use was 71%: 53 (67%) of 79 for vancomycin and 18 (86%) of 21 for teicoplanin. Of the 29 courses that did not meet the recommendations, 19 were for continued empiric therapy for infections in critically patients whose cultures were negative for beta-lactam–resistant, gram-positive microorganisms (although 9 had nosocomial pneumonia in units where MRSA rates were high), 9 were for prophylactic use (oral decontamination of the digestive tract in hematology–oncology patients), and 1 was for infection due to a beta-lactam–susceptible, gram-positive microorganism. Inappropriate prescribing was more frequent when a glycopeptide was initiated for empiric therapy (19 [68%] of 28) than for documented infection (1 of 61). Incorrect doses were ordered in 11 of the 100 cases (9% for vancomycin and 5% for teicoplanin).

On the basis of Centers for Disease Control and Prevention guidelines, the rate of inappropriate use of glycopeptides was 29% and the rate of incorrect doses was 11%. Restrictive orders for teicoplanin may have helped optimize glycopeptide use. Studies suggest that, in the absence of restriction policies, only 20% to 40% of vancomycin use has conformed to HICPAC guidelines.[4-8] After a vancomycin control policy similar to the HICPAC recommendations was initiated, Roghmann et al. found inappropriate vancomycin use to be substantially lower (32%) than before restriction.[9] Our report concurs with another French study showing the rate of appropriate courses to be 66.7%.[10] Our rate of inappropriate use was lower than that in other studies; however, empiric and prophylactic use occurred less often in our study.

Most of the inappropriate glycopeptide use found in our study occurred in empiric vancomycin therapy. As in previous reports, prolonged empiric therapy (more than 72 hours) in patients with negative cultures and without neutropenia or evidence for catheter-related infection was a frequent inappropriate use of vancomycin.[7,9,10] This is a situation in which the use of vancomycin should be discouraged.

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# SHEA Guideline for Preventing Nosocomial Transmission of Multidrug-Resistant Strains of *Staphylococcus aureus* and *Enterococcus*

The following questions were submitted by Kathleen LeDell, MPH, RN, Infection Control and Antimicrobial Resistance Unit, Acute Disease Investigation and Control Section, Minnesota Department of Health, Minneapolis, Minnesota, regarding the "SHEA Guideline for Preventing Nosocomial Transmission of Multidrug-Resistant Strains of *Staphylococcus aureus* and *Enterococcus*."[1] Several of the authors of the SHEA guideline (Carlene A. Muto, MD, MS, University of Pittsburgh School of Medicine and Graduate School of Public Health, Pittsburgh, Pennsylvania; William R. Jarvis, MD, retired from the Centers for Disease Control and Prevention, Atlanta, Georgia; and Barry M. Farr, MD, MSc, University of Virginia Health System, Charlottesville, Virginia) have responded to these questions. Their answers are in italics.

**To the Editor:**

I am writing regarding the "SHEA Guideline for Preventing Nosocomial Transmission of Multidrug-Resistant Strains of *Staphylococcus aureus* and *Enterococcus*,"[1] published in the May 2003 issue of *Infection Control and Hospital Epidemiology*.

I thank you for publishing this informative and thought-provoking guideline. The research is thorough and I believe that these recommendations should be strongly considered by healthcare facilities.

However, I do have some questions about how these recommendations would be operationalized in a facility that chooses to implement them.

The guideline does not define patients at high risk for carriage of methicillin-resistant *Staphylococcus aureus* (MRSA) or vancomycin-resistant enterococci (VRE). Presumably, these are nursing home residents or patients with prior hospitalization. It would be helpful if this were explained. I am also curious as to what percentage of patients would fall into these risk groups and warrant culturing, so that it would be possible to get an indication of how many patients this would involve.

*As mentioned in the Society for Healthcare Epidemiology of America (SHEA) guideline, risk has varied from country to country and hospital to hospital.[1] The principal risk factor has been healthcare, so patients coming from other healthcare facilities or those with a history of exposure to healthcare facilities (especially with antimicrobial treatment) may be at high risk. In countries such as the Netherlands, the risk of MRSA is low because the measures recommended by the SHEA guideline (ie, active surveillance cultures and contact precautions) are routinely used; patients returning from healthcare facilities in other countries not using surveillance cultures and contact precautions are routinely at a higher risk. The implementation of surveillance cultures in each facility would allow for the recognition of high-prevalence referral facilities and other risk factors. It would also determine the percentage of patients at risk. For patients remaining in the institution, the amount and duration of antimicrobial therapy, duration of stay, and location in a high-risk area can each serve as a marker for high-risk patients, as mentioned in the guideline.[1]*

Are those patients who have surveillance cultures performed on admission placed in contact precautions pending the results of their cultures? It would seem that for this strategy to work, they would have to be. Also, would masks be indicated as part of empiric precautions due to the chance that the patients might have MRSA?

*Most of the 44 studies cited in the guideline that reported success with surveillance cultures and contact precautions did not isolate patients until cultures were positive, so this is not always necessary. However, it is true that optimal control would likely come from the isolation of colonized patients on admission. Above some threshold prevalence, surveillance cultures and contact precautions likely save money by preventing spread, consequent (more expensive) infections, and greater numbers of patients requiring isolation, as discussed in the guideline. In recommendation III. 3., we suggested that universal gloves or gowns and gloves could be considered for patients with cultures pending.*