

TABLE  
**MRSA AMONG RESIDENTS OF A LONG-TERM CARE FACILITY, 1992**

Resident	Date of Site of Culture	Culture	Clinical Findings	Unit	Dates
A	1/17/92	Sputum	Pneumonia	3E	1/7/92 to 1/20/92
B	3/26/92	Urine	Asymptomatic	3E 6E	1/6/92 to 2/17/92 2/17/92 to —
C	4/13/92	Foot	Infected foot ulcer	6E	11/91 to —
D	4/13/92	Nose	Asymptomatic	3E 5E	12/10/91 to 1/22/92 2/3/92 to —
E	4/15/92	Hip	Infected decubitus ulcer	7E	1/22/92/ to —

even without any intervention, we believe we were successful in preventing further spread because of early recognition of the significance of two residents infected with the organism, subsequent intensive surveillance for colonized residents, strict enforcement of handwashing and barrier precautions for colonized residents, and eradication of the carrier state with a combination of topical and systemic antimicrobial therapy.

Various infection control interventions have been recommended for limiting the spread of MRSA in hospitals.<sup>3</sup> These recommendations have included laboratory surveillance for MRSA, implementation of a variety of barrier precautions, isolation procedures and cohorting, eradication of MRSA from colonized patients and staff, and disinfection of the inanimate environment of infected individuals. However, infection control measures recommended for hospitals may not be readily applicable in a long-term care facility. Staff may be less aware of the significance of MRSA and it may be more difficult to ensure that adequate barrier precautions remain in place when dealing with confused or wandering residents or with those requiring physical rehabilitation. It may also be more difficult to eradicate MRSA carriage from debilitated individuals with colonization at sites other than the nares.<sup>3</sup> In fact, efforts to

control MRSA in long-term care facilities have been reported to be only partially effective,<sup>4,7</sup> possibly because MRSA colonization rates were already high in those facilities by the time the problem was recognized and control measures were implemented. The role of continued transmission of MRSA within those long-term care facilities was uncertain, but colonized residents continued to be admitted to the nursing homes in significant numbers. Clearly, the chances of successful control of MRSA in long-term care facilities are increased if infection control interventions are implemented early on, before the organism becomes endemic. More effective strategies for managing elderly residents of long-term care facilities who are infected or colonized with MRSA need to be developed.

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## Prolonged, Multipatient Use of Oxygen Humidifier Bottles

### To the Editor:

In a recent article by Henderson et al (14:463-468), an assertion was made that prefilled disposable oxygen humidifier bottles could be reused at a significant cost savings without an increase in infection rates. Seven years ago, our institution was using a new disposable humidifier for each patient. However, after research of the current literature at that time, we reviewed a study presented at the 1984 American College of Chest Physicians' National Conference on Oxygen Therapy that stated: "Currently, there is no subjective or objective evidence that routine humidification of oxygen is necessary at flow rates of 1 to 4 L/min when environmental humidity is adequate. Elimination of unnecessary humidification of oxygen can result in substantial savings."

At that time, our hospital conducted a trial period eliminating these humidification devices. Humidifiers were used on all newborn and pediatric patients and on adult patients who were receiving oxygen flow rates >6

L/min or who complained of drying nares. All other hospital patients, on low-flow oxygen, did not receive pre-filled disposable humidifier bottles. In the past five years, since our trial, we have not used these devices at all, except as previously stated. In this time, our patients have not experienced drying of the nares or thickening of secretions as a result of not using traditional humidification devices with low-flow oxygen. This approach, as compared with the one suggested in Henderson's article, would create greater cost savings as well as reduce risk of infection in hospital patients.

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While we applaud the initiative in eliminating the use of routine humidification for oxygen therapy whenever possible, the operative phrase in the statement from the American College of Chest Physicians is "when environmental humidity is adequate."<sup>1</sup>

We agree that significant cost savings could be achieved by the elimination of oxygen humidification; however, this is not feasible under all conditions.<sup>2,3</sup> In Calgary, the average relative humidity ranges from 40% to 45% in summer and 55% to 60% in winter. In addition, cold temperatures in the winter that average -10°C in January and can drop to -35°C dictate extensive use of central heating, which produces very low humidity indoors. Environmental conditions combined with means of oxygen storage (147°C under high pressure) increase the need for humidification. In our acute care tertiary hospital, where the relative humidity is low, humidifiers are no longer used in situations where low-flow oxygen (<4 L/min) is administered for short periods of time (eg, <2 hours in the recovery room). Before making the commitment to eliminate oxygen humidification, it is important to consider both the local environmental conditions and the

method of oxygen storage as well as the flow rate and duration of administration.

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## Reducing Laundry Linen Sharps Contamination: Employee Safety Management

### To the Editor:

The Perry Point (Maryland) Department of Veterans Affairs Medical Center is a 600-bed facility that has a regional consolidated laundry providing service to an additional six VA Medical Centers. Of the seven, four are tertiary care university-affiliated VA Medical Centers. Unfortunately, there has been persistent recovery of sharp and nonsharp foreign objects in the linen. There have been documented injuries (including needlesticks) reported to employee health, requiring bloodborne pathogen exposure evaluations.

The consolidated laundry staff has been tracking sharps recovery rates among the seven member hospitals since 1988. This program initiative is most applicable to the model of continuous quality improvement (CQI) since the traditional quality assurance concept of "acceptable threshold" does not pertain to a situation where employees handling linen are being exposed to any dangerous occupational hazards such as sharp (or nonsharp) foreign objects. In this case, a zero-defect objective is warranted. However, administrative corrective actions had not been able to demonstrate meaningful improvements until a system for rapid feedback of incidents was established with the member facility (Center F) with the highest historical rates of linen sharps contamination.

### INTERVENTION

On July 1, 1992, the Perry Point VAMC laundry used the national VA Medical Center computer network to initiate an electronic mail interface with

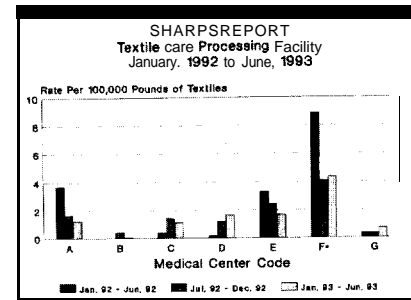


FIGURE. Intervention began July, 1992 at Medical Center F.

the Infection Control Program at Center F, so that recovered sharps could be reported immediately to the source facility. This reporting served as an adjunct to a set of biannual summary reports on sharp and nonsharp laundry contamination. Center F initiated an aggressive program of staff education via the Infection Control Committee, primarily directed at physicians, nurses, and housekeeping staff. Feedback on sharps contamination has been provided to nursing and housekeeping staff at the unit level on a monthly basis, and similar material is included in employee orientation programs. In addition, new medical students and housestaff have been oriented on a monthly and quarterly/biannual basis, respectively, using supplemental "attention sheets." Furthermore, this information was formally conveyed to key executive committees of the Medical Center, so as to enable an appropriate flow of information between clinical and administrative staff.

### RESULTS

As shown in the Figure, during the period prior to intervention Center F laundry contained 68 sharps (8.91 100,000 lbs. of sorted linen); in the two six-month periods following intervention, the Center's laundry contained 34 and 33 sharps (4.1 and 4.4 per 100,000 lbs), respectively ( $P < 0.01$ , Poisson).

The Perry Point VA director formally has notified all consolidated laundry Medical Centers of this presumptive success, since it can serve as a template for similar liaisons with the