Letters to the Editor

Shielded Safety Syringes

To the Editor:

The results of the study, "Impact of a Shielded Safety Syringe on Needlestick Injuries Among Healthcare Workers," in the June 1992 issue (1992;13:349-353) are encouraging. Technology that keeps the worker's hands behind the needle at all times and covers the needle after use should significantly lower the rate of needlestick injuries.

However, we noted the following inconsistencies between the data reported in the Study Phase column of Table 1 and 2:

Table 1 lists the number of needlesticks from prefilled cartridge, injection syringes as 11 during the study phase. However, in Table 2 the total number of needlesticks from this device at the three hospital sites is zero.

During the study phase, Table 1 reports 28 total injuries from IV/IV piggyback devices while the total number in Table 2 is 29.

Table 1 records 5 lancet injuries during the study phase; the corresponding total number of lancet injuries is 4 in Table 2.

The Study Phase Column of Table 1 lists 36 injuries with miscellaneous syringes, needles, and catheters. The same category total in Table 2 is 37.

Accurate information is essential to determine the impact of new technology on healthcare worker protection. This study is a step forward in our understanding of one potentially important needle design. We would appreciate clarification from the authors on these discrepancies so that we may accurately interpret these findings.

TABLE 1
NEEDLESTICKS BEFORE AND DURING USE OF A 3 cc SAFETY SYRINGE

Device	Background	study
1 cc syringe	11	17
2 cc syringe	5	0
3 cc syringe	27	3*
510 cc syringe	6	7
> 10 cc syringe	4	4
IV/IV piggyback	28	29
Suture needle	12	11
Lancet	4	4
Blood collection	4	6
Prefilled cartridge	3	0
Insulin	1	3
Miscellaneous	21	37
Unidentified	8	19
Total	134	140

*Includes 1 needlestick attributable to nonsafety syringe.

Beth Blackwell
Janine Jagger, MPH, **PhD**
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The authors reply.

Table 1 should read as indicated.

All of Table 2 is correct. In the abstract, the source identification number reads 1993; it should be 1992.

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MRSA in Long-Term Care Facilities

To the Editor:

How frequently are patients being transfered from an acute-care hospital culture-positive for methicilline-resistant *Staphylococcus aureus*? If a patient is colonized and then the colonization resolves but then reappears two or three months later at the original site, is this by definition a colonized patient? Finally, a long-term asymptomatic resident in a skilled nursing facility presents with a positive MRSA culture and is by definition colonized. Can this patient become MRSA-negative without any antibiotic therapy? If so, what is the mechanism?

Harry J. Silver, MD
Los Angeles, California

John M. Boyce, MD, was asked to reply to this letter.

Several surveys have documented that the incidence of methicillin-resistant *Staphylococcus aureus* (MRSA) is increasing in acute-care hospitals.[1,2] Although comparable data are not available for skilled nursing facilities, there is little doubt that MRSA is being encountered with increased frequency in nursing home patients. As a result, many skilled nursing facilities have questions about the infection control measures that should be used when MRSA occurs among nursing home residents.

Unfortunately, no long-term prospective studies of MRSA have been conducted in free-standing

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community skilled nursing facilities. Presently, our understanding of the risks of MRSA colonization and infection in nursing home residents is based primarily on the results of a few careful studies performed in Veterans Affairs (VA) nursing home units.[3-6] However, it should be emphasized that the findings in VA-affiliated nursing home units may not accurately reflect the epidemiology of MRSA in community skilled nursing facilities. Nonetheless, these studies have yielded useful data regarding some of the issues raised in Dr. Silver's letter.

In all types of facilities, a patient who is culture-positive for MRSA at any body site, and who has no signs or symptoms of infection at the affected site is considered to be colonized with MRSA. In prospective culture surveys performed in VA-affiliated nursing home units, from 4% to 10% of residents acquired MRSA over the course of one year.[4,5] However, because residents may reside for extended periods of time in the same facility, the number of culture-positive patients residing in a facility may gradually increase over time so that the proportion of residents who are colonized may reach 5% to 10% in community-based nursing homes and 25% to 35% in VA-affiliated nursing home units.[3,5,7]

Residents with wounds (e.g., gastrointestinal tube sites or decubitus ulcers) or indwelling vascular or bladder catheters, and those with the greatest degree of functional impairment are at greatest risk of acquiring MRSA.[3,5,7] Although roommates of residents with MRSA were thought to be at high risk of acquiring MRSA, studies in a VA-affiliated nursing unit and in a community-based nursing home found that only a few percent of exposed residents acquired the same strain of MRSA as their roommate.[5,7]

Because roommate-to-roommate transmission appears to be uncommon and private rooms are seldom available in skilled nursing facilities, it is neither practical nor necessary to place all residents with MRSA in a private room. In such facilities, cohorting of patients with MRSA is reasonable but should not be considered mandatory. If cohorting is not practical, the best roommate for a patient with MRSA would be an individual who is ambulatory and has no wounds or indwelling catheters.

With any strain of *S aureus*, whether it is methicillin-susceptible or methicillin-resistant, some individuals carry the organism for only a few days, some will carry it for several weeks and then cease to be carriers, and some will remain persistently colonized for

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*Blood strikethrough data available upon request.

periods of months or years.[7-9]

Nursing home residents often remain colonized with MRSA for many months.[5] The factors responsible for persistent *S* aureus carriage have not been adequately studied. Patients with signs or symptoms of infection who yield MRSA from the infected site should be considered to have MRSA infection. Many different criteria have been used for defining infections in nursing home residents, but only recently have standardized definitions been proposed.[10] The same clinical criteria used for defining infection due to more common pathogens can be used for defining MRSA infections.

How serious a threat does MRSA pose to residents in skilled nursing facilities? Several studies have shown that only 1% to 3% of all residents in the affected nursing home units developed an infection due to MRSA.[4,5] Among residents who were known to be colonized with MRSA, 6% to 14% developed an infection due to MRSA. This is in marked contrast to colonized hospitalized patients, who have a 30% to 60% chance of developing a MRSA infection.[11] In VA-affiliated nursing home units where careful surveillance was conducted, few deaths resulted from MRSA infection.[3-5]

Routine treatment of all colonized residents with topical or oral antibiotic regimens designed to eradicate MRSA is not recommended.[4,6] In VA-affiliated nursing home units where topical mupirocin or oral regimens were used widely, only modest reductions in the prevalence of MRSA colonization were achieved.

Among residents who became culture-negative following decolonization therapy, recolonization with MRSA was documented in a third to one half during followup periods of one to two months.[6,12] Because the incidence of MRSA infection was already low in these facilities, widespread use of decolonization regimens did not lead to a significant reduction in the incidence of MRSA infections.[6,12] Of additional concern, resistance to the antimicrobial agents used developed in both studies.

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