

# Lowering the Curtain on Healthcare- Associated Infections

by J. Darrel Hicks, REH

It has long been thought that environmental cleanliness was the key to curbing the spread of cross-contamination. Not to minimize meticulous handwashing by healthcare workers, but once hands are clean, they can quickly become contaminated if the environmental surfaces are not clean and disinfected. The mission of an environmental services department should be to create a clean, safe environment where patients can get well and go home. But, you may be overlooking a dirty little problem: the cubicle (or privacy) curtain. Have you considered the possible link between these curtains and healthcare associated infections (HAIs)? If you have not, perhaps you should.

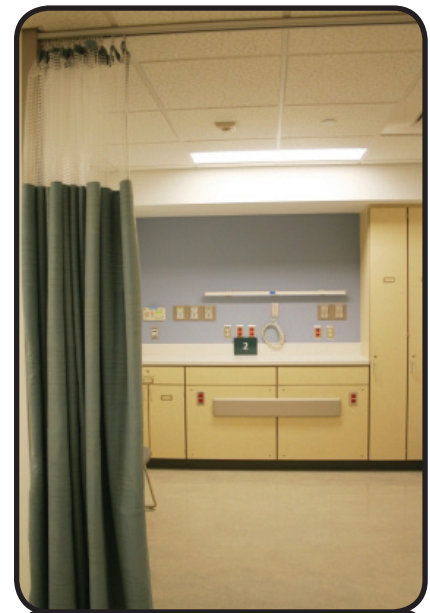
When a patient is admitted to a hospital room, the furniture (including the bed) has been cleaned and disinfected—clean linens are on the bed; the restroom is spic and span and sanitized, too; yet, the privacy curtain that is within two feet of their bed may not have been changed for weeks or months. The curtain may even have visible blood or other “unknown” spots or stains that makes one wonder, “Is it clean, or not?”

Doctors, nurses, patients, house-

keepers, and everybody else grabs the cubicle curtain to open or close it—sometimes with gloves, most of the time without gloves. Sometimes, the curtain is opened with clean hands, and sometimes with hands soiled with *Staphylococcus aureus*, MRSA, C-diff, VRE, or E-coli. In 1993, there were less than 2,000 reported cases of MRSA. In 2005, there were an estimated 94,000 cases and 18,650 deaths due to MRSA. Yet, the curtain often stays from one sick patient to the next, to the next, to the next...

Hospitals are required to be in compliance with the Federal requirements set forth in the Medicare Conditions of Participation (CoP) in order to receive Medicare/Medicaid payment. CMS (Centers for Medicare/Medicaid Services) is a federal agency overseeing the government’s insurance program.

Since 2008, CMS is no longer reimbursing hospitals for patients who acquire an infection during their stay. Hospitals will experience a negative economic impact due to HAIs not being reimbursed by CMS. New standards, which force the medical institution to pay for treating HAI’s, have made prevention and reduction of HAI’s



In a 2008 study, it was found that 42 percent of hospital privacy curtains were contaminated with VRE, MRSA, and C-Diff.

a primary concern.

Cubicle curtains have been known to cause HAIs, as shown in the following example. In a study published in the November 2008 issue of *Infection Control and Hospital Epidemiology*, it was discovered that 42 percent of hospital privacy curtains were contaminated with vancomycin-resistant enterococci (VRE), 22 percent with Methicillin resistant *Staphylococcus aureus* (MRSA), and 4 percent with *Clostridium difficile* (C-diff). Then, the clean hands of hospital workers were cultured after they opened/closed the curtains, and it was found that the organisms had transferred to the clean hands or gloves. The conclusion: Healthcare-associated pathogens left on curtains are transferred to hands and could potentially lead to HAIs.

Since the exposure of this phenomenon, some hospitals have begun to use anti-microbial curtains in an effort to impede the spread of HAIs. However, a potential problem with that solution is that a lethal dose of antimicrobials may not be delivered and can make organisms more resistant, which is an even larger problem.

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# CURTAIN

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Barnes-Jewish Hospital, in St. Louis, Missouri, concluded during a study that treating curtains daily with hydrogen peroxide may decrease gram-positive infections; however, results are confounded by other infection prevention activities. Hydrogen peroxide seems to have no effect on gram-negative organisms and fungi. (If you want to know more about this study, you can contact Loie Ruhl, RN, BS, CIC at (314) 454-5573 or [ler1631@bjc.org](mailto:ler1631@bjc.org)).

Alice Neely and Matthew Maley (1999) concluded in a study that spraying with 3-percent hydrogen peroxide was an inexpensive and safe way of spot-disinfecting fabrics in the laboratory, and “may limit the spread of potentially pathogenic antibiotic-resistant bacteria.”

In my opinion, a better solution would be to change the bed curtains following each contact isolation (i.e., MRSA, VRE, C-diff). This should become a part of the discharge/transfer protocol for contact isolation rooms.

I hear you say, “In the first place, I don’t have the staff for that. And, second, I don’t have enough curtains to do an exchange. Third, who is going to pay for the cleaning of these curtains (labor, utilities, etc.)?” I will suggest two possible answers or solutions to your dilemma.

**1. Install disposable cubicle curtains in your patient rooms.** The features of this type of curtain over a conventional curtain include:

- **Safety:** Reduces cross contamination and HAIs; reduces worker’s compensation issues by reducing injuries; eliminates stress on back, neck, and shoulders; eliminates cross contamination risks for ladders in and out of isolation rooms; and assures a clean/refreshed curtain each change.

- **Time savings:** Reduces



*The best solution in reducing HAIs due to contaminated bed curtains is to change the curtains following each contact isolation. This should become a part of the discharge / transfer protocol for contact isolation rooms.*

changeover time to less than 10 seconds per panel (usually 2-3 panels around each bed); compact packaging allows stocking product in nursing units to eliminate wait time; anyone (including nursing) can change the curtains with this system which results in faster patient admissions; compatibility with current ceiling track’s auto release system can reduce maintenance calls.

- **Money savings:** Can be charged to each nursing division and stocked to a par level by central storeroom personnel; reduces worker’s compensation issues by reducing injuries (**the elimination of one fall from a ladder by one of your staff could pay for curtains for a year!**); reduces FTEs/labor cost associated with changing, laundering, etc.; eliminates acquisition cost of current curtains if you don’t have the necessary 30 percent overstock needed to implement frequent changes; stocks a single SKU and reduces storage costs; faster curtain changes allows for

patient admissions (improving patient throughput from the ER); and eliminates one more possible source of HAIs due to soiled curtains remaining in the room from one sick patient to the next.

- **Increase Patient Satisfaction & Regulatory Compliance:** Faster patient admissions; maintain patient privacy with consistent curtain length in every room; no torn or yellow mesh at the top of the curtain; no mismatched curtains; no waiting on curtain changes; eliminate HAI’s due to soiled curtains.

**2. Install a more traditional, fabric curtain utilized in a 2-piece cubicle curtain snap panel system:** If a patient or member of the hospital staff soils a small section of a conventional cubicle curtain, health codes require that the environmental services or housekeeping staff remove the entire cubicle curtain for laundering and hang a replacement curtain. This requires most hospitals to keep a stock of replacement cubicle curtains. Many times, two

complete sets are purchased for each existing track. This practice is extremely expensive for hospitals to maintain.

With a cubicle curtain snap panel system, one size fits all. This is the case since snap panels have been engineered to allow each section to be added or removed one at a time to the antimicrobial curtain mesh. The maintenance staff simply needs to find a clean-snap panel and snap it on. By removing only the soiled panels of a curtain system for cleaning, laundering costs are greatly reduced. During the panel replacement process, staff can load a cart with many snap panels and change out soiled panels on several floors in just one trip to the curtain storage room, thus saving the staff time and the facility money. Ladders are not required to change the panels. This is accomplished by varying the length of the antimicrobial curtain mesh to accommodate various ceiling heights.

The disadvantage of this program over the disposable curtain is you will still have the acquisition cost for changing over your current curtain system, will need to purchase 30 to 100 percent replacement curtains (depending on the high turnover of isolated patients), and laundering of the curtains.

In conclusion, a comprehensive approach to changing cubicle curtains is necessary to reduce the numbers and frequency of hospital-acquired infections. Collaboration between infection prevention/control practitioners and the environmental services department is essential in breaking the chain of infection. Who knows? The life you save may be your own, or that of your loved one. ♦

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