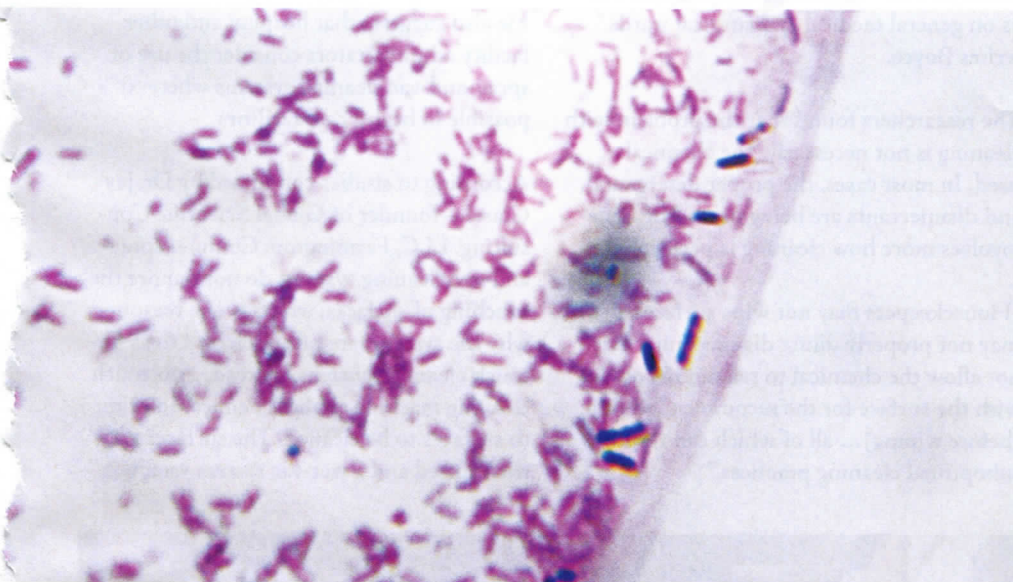


The Importance of Hospital Cleanliness

ROBERT KRAVITZ



A few months ago, a manufacturer of spray-and-vac cleaning equipment issued a press release entitled, "Hospital Patients Should Ask, 'Who Was in the Room before Me?'" The story discussed how recent studies have found that if a previous patient occupying a hospital room had such diseases as methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant enterococci, norovirus or other highly infectious and often deadly diseases, there was "an increased risk [of the next patient admitted to that same room] contracting these multi-drug resistant organisms," according to Dr. John Boyce, Yale University School of Medicine, New Haven, Conn., who was directly involved in and reported on the study.

Complicating matters, the study also found that the pathogens and contaminants that can pass these diseases from one person to another can linger quite a while. In many

cases, these pathogens were found to still be present up to two weeks after the infected person had left the hospital room. If *C. difficile* spores are present, the pathogens can survive for several weeks.

When the report was first released, several medical- and infection-control-related publications printed details of the story. However, it seems to have picked up more mainstream coverage when the cleaning manufacturer referenced earlier reported on the study.

The cleaning manufacturer was interested because the study found that there were two key ways to stop the spread of disease from one hospital room patient to another. The first involved improved hand sanitation. Proper hand washing has long been considered the number one way to stop cross-contamination.

The second mode of transmission—which is what drew the attention of the manufacturer—was all about cleaning.

Beyond reporting

Researchers often simply report their findings. However, Boyce and his colleagues offered suggestions on how hospital facilities and other locations concerned about the spread of disease can reduce the risk and minimize transmission rates in both regular and post-discharge cleaning situations. Overall, the researchers said that hospitals and other facilities must "pay more attention to cleaning and disinfecting the indoor environment." To do this, they recommend the following:

- Conduct visual inspections of all areas cleaned, especially in patient rooms after a patient leaves and before the next patient is admitted;
- Mark high-touch* surfaces with a fluorescent marker. High-touch areas such as light switches, door knobs, etc., are often transmission points for the spread of disease;
- Conduct bacterial studies to determine what pathogens are located on high-touch areas; and
- After all cleaning, use ATP (adenosine triphosphate bioluminescence) monitoring equipment to assess cleanliness of surfaces. (See sidebar on page 89) for additional post-discharge cleaning recommendations.)

The researchers admitted that conducting a visual inspection of surfaces cleaned does not provide sufficient reliable information about their cleanliness.

"They probably recommended this because one of the goals of the study was to get everyone—facility managers and custodial workers—more focused on the importance of cleaning," says John Richter, technical director for Kaivac, Inc. "And placing a fluorescent mark on a surface may sound a bit juvenile, but studies continue to report that cleaning workers wipe clean only about half of the targeted high-touch surfaces in hospitals that should be cleaned."

Although conducting bacterial studies was one of the recommendations, the fourth item

suggested—the use of ATP technology—has become far more common in medical and many other types of facilities. In fact, ATP testing has become so important to the professional cleaning industry that many view it as the missing link when it comes to the connection between science and cleaning.

Understanding ATP

ATP is an energy molecule found in all organisms. Its presence is therefore considered an indicator that some form of life is present. When ATP is found on a surface, it can mean that health-threatening microorganisms are there as well. This does not mean the system can detect specific organic substances—microbial cultures and other tests are necessary for this. But the presence of ATP is typically viewed as a red flag in the professional cleaning industry that potentially harmful pathogens are present and that more thorough, hygienic cleaning is required.

ATP testing procedures were developed after World War II. Originally, testing for ATP required a trained technician who would swab specific areas on a surface and then transfer those samples to a computer for analysis. At that time, computers were large enough to fill an entire room—hardly something readily available to most businesses—and it took several days for the results to be reported.

“Since then, however, rapid monitoring systems have been developed that provide accurate ATP readings in literally seconds,” says Richter. “This has made the technology applicable to a variety of settings.”

Today these rapid monitoring systems are handheld, requiring no outside computer**, and the test does not call for specially trained technicians. According to Richter, the testing process consists of these basic steps:

- A pen-like device is swabbed over a surface;
- The device is inserted into the handheld reader;
- The system calculates the relative amount of ATP detected on the device; and
- Results are reported in 15 seconds or less.

“Using these results, hospitals and other facilities have developed standards for acceptable levels of ATP,” says Richter. “If the

results of the test are under a certain level, the surface is deemed clean and safe. If the results go above these levels, the surface may not be considered safe and must be cleaned and sanitized again.”

The practice of cleaning

Along with suggesting ways to help stop the spread of contaminants from one patient to another, researchers reported on actual cleaning practices in many medical facilities. They found that only about 50 percent of the surfaces in patient rooms that should be cleaned are actually being cleaned.

“This phenomenon has been documented in hospitals and intensive care units as well as on general medical and surgical wards,” writes Boyce.

The researchers found that the problem with cleaning is not necessarily the chemicals used. In most cases, the proper detergents and disinfectants are being used. The issue involves more how cleaning is performed.

“Housekeepers may not wipe surfaces at all, may not properly dilute disinfectants, may not allow the chemical to remain in contact with the surface for the recommended time (before wiping)... all of which can result in suboptimal cleaning practices.”

Although the researchers recommended the possibility of “misting” rooms or using vapor technology and hydrogen peroxide to decontaminate rooms, reach areas often missed by custodial crews and help reduce the incidence of hospital-onset disease, the study indicates there are some uncertainties with these systems. It suggests that further studies are warranted.

Richter applauds the researchers for considering cleaning systems other than traditional methods and equipment such as cleaning cloths, sprayers, mops and buckets, “which we now know can spread contaminants from area to area instead of remove them.”

He also suggests that hospital and other facility administrators consider the use of spray-and-vac cleaning systems wherever possible in health care facilities.

According to studies conducted by Dr. Jay Glasel—founder of Global Scientific Consulting, LLC, Farmington, Conn.—spray-and-vac cleaning systems do not require the touching of surfaces, which is one reason why the systems are often referred to as no-touch cleaning systems. Instead, a no-touch cleaning machine applies chemical solution to surfaces to be cleaned. The surfaces are then rinsed and a wet-vac system vacuums



Additional recommendations for post-discharge cleaning

- Establish policies identifying surfaces in patient rooms that must be cleaned;
- Educate custodial workers about the use of chemicals, disinfectant dwell time, dilution issues, etc.;
- Educate custodial workers about the special cleaning needs of different surfaces;
- Educate custodial workers about the importance of cleaning as a way to stop the spread of infection;
- Consider the use of new cleaning technologies and systems that may result in more effective, pathogen-free cleaning; and
- Insist that cleaning workers wear gloves at all times when working and wash hands thoroughly after removing used gloves and before putting on new gloves.

up the solution along with contaminants. Comparing traditional cleaning methods to spray-and-vac systems, Glasel found "for removing bacterial contamination, the data show that the spray-and-vac [system] is 60 times more effective in reducing bacterial contamination than conventional method[s]."

Why cleaning matters

Boyce's study focused on what was termed "post-discharge cleaning," and for many facility managers and cleaning professionals, it once again reminds us of the importance of cleaning to protect human health. "Whether it is in a hospital room or a school room, effective cleaning is critical to keeping people healthy," says Richter. "Fortunately, the researchers took their study a step further, making concrete recommendations that can be applied to all types of settings and situations." **FMJ**

**High-touch surfaces include light switches, doorknobs, closet and dresser handles, faucet handles, fixture controls, ledges and railings.*

***Although no computer is necessary, some ATP systems allow the user to download results into a computer so that logs and trend analyses are possible.*



Robert Kravitz is a former building service contractor, author of two books on the professional cleaning industry and a writer for a variety of industries on cleaning and health-related issues. He may be reached at info@alturasolutions.com.

Anti-Ligature Rx Family

Introducing MRX Series ANSI Grade 1 Mortise Lockset Institutional Privacy Function (Patented Clutching Action)

NEW

Institutional areas require the ability to control locking and unlocking independent of inside thumb turn. In areas where there is potential for someone on the inside controlling the thumb turn this product allows unlocking or locking from the outside. Product automatically unlocks when door is closed.

Optional Antimicrobial Coating

Introducing SANIGUARD™ antimicrobial protected products



MRX-L-IP



(MRX-K)



(CRX-L)



(CRX-K)



(DRX)



(RRX-K)



BEFORE



AFTER

REJUVENATOR™

One Box

One Stop

One Fix

Compatible with all brands* including:

+ Arrow + PDQ + Schlage
+ Best + Marks + Falcon
+ Corbin + Sargent + Yale

NOTE: Through bore mortise case applications only

Never Make 2 trips to fix one lock...
Get the job done the first time

TS TownSteel®
Architectural Hardware MFG

The REJUVENATOR™ works as an all-in-one fix for your sagging and broken levers. Make your knob locks ADA compliant.

707 N. Barranca Ave., Bldg. #6
Covina, CA 91723
T: 877-858-0888 | F: 626-858-3393