

# FIGHTING ANTIMICROBIAL RESISTANT BUGS AS PART OF THE TEAM

Disinfectant cleaners, clear procedures and training lead to fewer infections

By Sheryl S. Jackson

**A**ntimicrobial resistance and its relationship to hospital-acquired infections (HAIs) and the development of “superbugs” has been an issue for decades — with the majority of efforts directed at strategies to ensure that antibiotics are properly prescribed to prevent creation of an antibiotic-resistant bug.

In April 2016, new guidelines from the Infectious Diseases Society of America and Society for Health Epidemiology of America were released. Recommendations for effective antibiotic stewardship programs include preauthorization and prospective review of antibiotics, physician and pharmacist leadership and program design that focuses on the specific problems and resources of the healthcare facility.

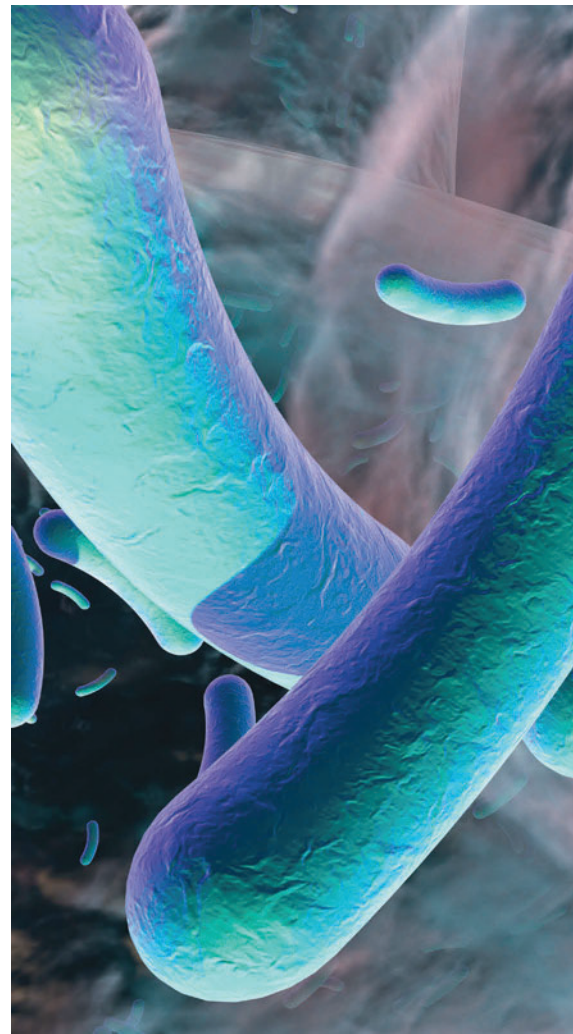
While the new guidelines focus on the clinical practice related to diagnosis

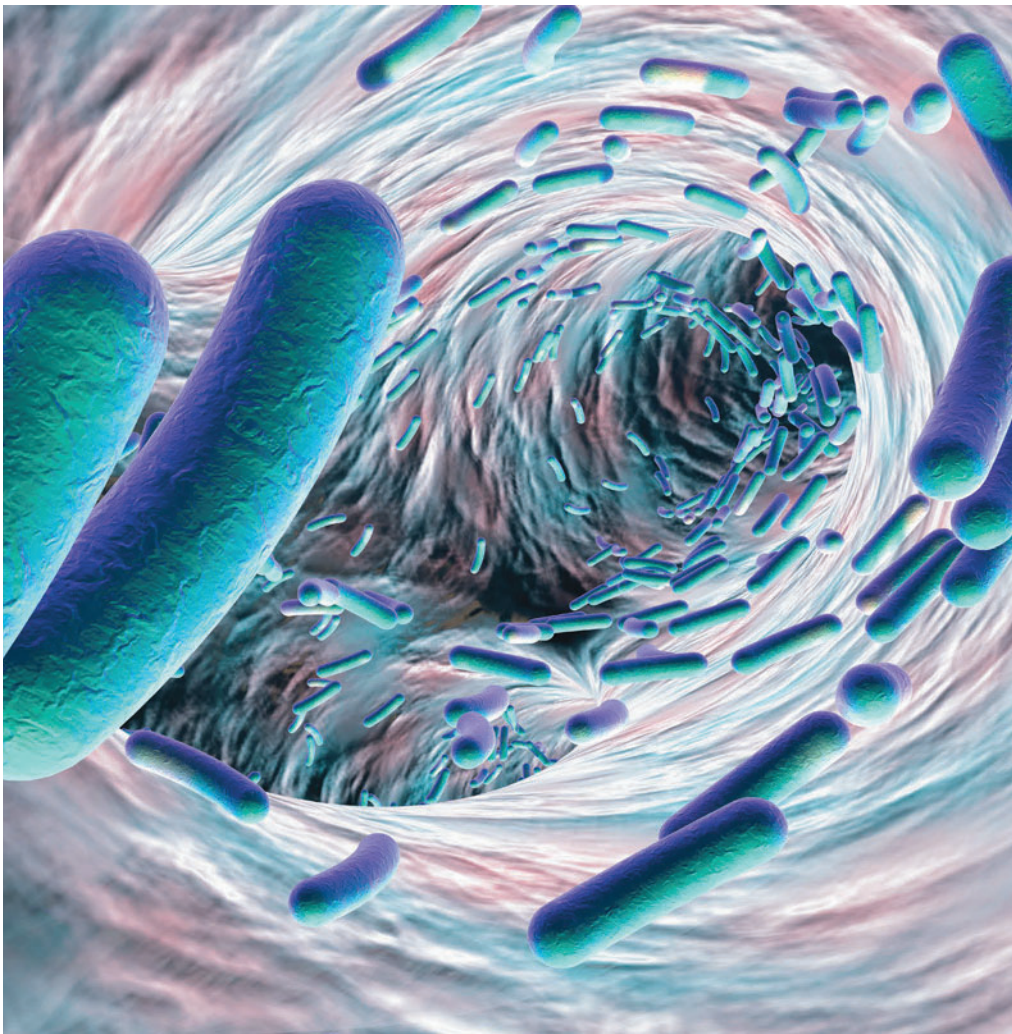
of infection and appropriate prescription of antibiotics, antimicrobial stewardship also applies to environmental services, says Timothy L. Wiemken, PhD, MPH, CIC, assistant professor of medicine and director of the healthcare epidemiology and patient safety program at the University of Louisville. “Physicians must accurately identify the right bug as well as the right drug and the right dose to fight the bug. If you think about environmental services staff as the healthcare provider for the environment, then they must prescribe the right disinfectant in the right concentration for the area they are cleaning,” he says. “Changing the way we think about our role in preventing the spread and further development of resistant organisms leads to better and more consistent practices.”

A flurry of news headlines several years ago claimed that disinfectants used in hospitals were also creating resistant strains

of bacteria, but the studies focused on results obtained in laboratory settings versus real-life settings. “The CDC [Centers for Disease Control and Prevention] does not consider the use of disinfectants a cause of antimicrobial resistance,” says Peter Teska, infection prevention application expert at Diversey Care, a division of Sealed Air. While antibiotics fight microorganisms with a targeted approach, disinfectants are more of a “sledgehammer,” he explains. “A disinfectant used correctly will kill the microorganisms on a surface — there won’t be enough of any microorganisms left to survive to develop resistance.”

The most important role environmental services plays is preventing the spread of microorganisms that are brought into the facility by patients, visitors and hospital staff. To prevent this transmission, environmental services staff must select the proper disinfectant cleaner for each





circumstance, says Teska. "There is a hierarchy of resistance to disinfectants, so in high-risk areas such as patient rooms or the intensive care unit, the products must be capable of killing the higher-level organisms that contribute to HAIs or are difficult to kill," he said. "Lower-risk areas such as the lobby or public corridors may not require the same level of disinfectant."

Teska points to an article in the July 2014 issue of *Infection Control and Hospital Epidemiology* that describes the types of pathogens most environmental services professionals encounter and offers guidance on how to select the best product as an excellent resource when evaluating disinfectants for use.<sup>1</sup> "Each hospital is different, so there is no one product that works for every situation," he adds.

Because there is no "magic bullet" that works in all cases for every facility, Wiemken reminds environmental

services leaders to keep the goal in mind while developing a targeted approach. "*Clostridium difficile* (*C. difficile*) spores require a sporicidal disinfectant while other bacteria may not," he points out. "You also need to evaluate how well the product works on different surfaces."

Moving to disinfectants versus cleaners is essential to environmental services' role in preventing the spread of resistant pathogens, says Teska. "A study<sup>2</sup> of the use of disinfectant wipes when the compliance rate was over 80 percent showed a significant decrease in the incidence of methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant *enterococci* (VRE), and *C. difficile*," he says.

#### Get a seat at the table

Targeting products for specific needs requires understanding the facility's needs. For this reason, Teska recommends working

with the infection prevention department to create a strong relationship between the two departments. "Be proactive and seek feedback that will improve environmental services' contribution to the healthcare organization," he says. "We've seen relationships between infection prevention and environmental services become stronger in the past 10 years."

This relationship is not surprising, as hospital quality metrics related to infection rates and patient satisfaction become linked to reimbursement, says Teska. "The focus is on quality rather than just the dollars spent, so environmental services leaders who can demonstrate an improvement in quality in terms of those metrics will be able to justify additional investment in products, equipment and training," he adds. "In fact, the infection prevention team can become advocates if they can see that the environmental services department understands and accepts their role in prevention of HAIs."

Staying up to date on the latest issues and product research related to antimicrobial-resistant pathogens is one way to add value to infection prevention's efforts, as is taking steps to ensure your staff training and procedures protect patients and other personnel from infection. One way is to have a third party conduct an audit, says Teska. "Employees behave differently when their boss is watching, but an outside consultant will be able to assess how they really perform their jobs," he says. While suppliers will often provide this service on a limited basis for free, Teska recommends environmental services leaders budget for a full, third-party assessment periodically. "That extra pair of eyes from a secret shopper gives you an unvarnished view of what is happening day to day."

Improper hand hygiene, incomplete cleaning due to interruptions or changes in routines, and different interpretations of high-touch areas are the areas of improvement most often observed by outside assessors. Improved procedures and training can improve performance in all of these areas, says Teska.

#### Best practices decrease spread of resistant organisms

In the case of antimicrobial-resistant pathogens, it is critical to make sure employees don't spread them from



surface to surface. Making sure staff know not to use the same cloth on multiple surfaces, and even choosing disposable disinfectant wipes over re-usable cloths is one best practice adopted by more healthcare organizations, says Teska. "The wipes are especially effective with *C. difficile* because they are used on one surface and disposed. When the cloth and bucket method is used, the spores may not be washed out during laundering, which can allow the spores to re-contaminate surfaces when used after laundering."

Wiemken co-authored a study on the benefits of disposable disinfectant wipes and found that added benefits included a higher rate of compliance with cleaning processes over use of the cloth and bucket, as well as a faster, more efficient cleaning and disinfection process.<sup>3</sup> "Removing the human element from the process leads to more consistent practice," he explains.

Employee training is also getting a close evaluation as the role of environmental services becomes more critical to patient safety. In addition to developing detailed

descriptions of procedures — such as defining "light switch" as the toggle switch, the switch plate and a specific amount of wall surrounding the switch plate — training is becoming more comprehensive.

The old way of having a new employee work with an experienced employee as the sole method of training is no longer acceptable, says Teska. "This approach ensures that bad habits are passed from one person to another." Instead, a combination of classroom training including a formal review of procedures and shadowing an employee who demonstrates compliance is more effective.

Ultraviolet light or fogging with hydrogen peroxide vapor or mist are two new methods used when patient rooms are empty, but both must be preceded by cleaning to remove organic material or debris from surfaces. While there are advantages, cost and the length of time to use these technologies can be barriers to use for some healthcare organizations.

Evaluating new technologies and new products can be overwhelming, says

Wiemken. "Learn who are the experts in disinfection and ask their opinions," he suggests. "Test a new product in your facility on a small scale to see if it works well and if employees will use it consistently."

Although environmental services' contribution to hospital operations and patient safety is typically undervalued, Wiemken believes this is changing. With reimbursement affected by hospital HAI rates, environmental services leaders are in an excellent position to speak up and demonstrate their value, he adds. "Environmental services staff ensure a safe environment for the patient, which means they are a critical part of the infection prevention team." ●

### References

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