

A SPOTLESS RECORD

Best practices for cleaning, disinfection of environmental surfaces to control HAIs

By Nicole Kenny

Keeping an institution clean used to be a fairly straightforward process that was entrusted to the housekeeping department. Few were concerned with how it got done so long as it did. However, with the emergence of healthcare-associated infections (HAIs), tremendous pressure has been placed on healthcare organizations, particularly environmental services departments, to ensure their facilities are properly cleaned and disinfected.

IMPROVING HOSPITAL HYGIENE

Disinfection of surfaces is a vital part of any facility's environmental hygiene program. Choosing the right disinfectant can support its overall success and have a dramatic impact on program costs.

While there is a plethora of disinfectants available for use in Canada, it has been difficult to find a single product that kills all pathogens quickly and effectively without presenting a health hazard to humans or damaging equipment and other surfaces.

What's more, a disinfectant is only as good as the people who use it.

Fortunately, recent breakthroughs in the development of safer disinfectants, the introduction of validation tools to assess cleaning effectiveness and the adoption of training methods to improve cleaning procedures have created new opportunities for facilities to achieve better outcomes. This includes a greater reduction in the incidence of HAIs, less injury resulting from disinfectant use and dramatic cost savings.

STEPPING INTO ACTION

Developing a cleaning and disinfection program to address current best practices can be a daunting task due to the reams of scientific studies and infection prevention and control guidelines. However, this information can be distilled into five key steps that every healthcare facility should follow.

The first involves defining clear roles and responsibilities. This is imperative to ensuring the program's success. The functional groups responsible for cleaning patient care environments and equipment need to work together to determine who is responsible for cleaning each surface and piece of equipment in a patient room as well as the cleaning frequency. If this division of responsibilities does not occur, surfaces or devices will be overlooked. Since environmental surfaces and shared patient care equipment have been linked to the transmission of HAIs, it's necessary to ensure cleaning is done right each and every time.

Once responsibilities have been assigned, it is then imperative that all staff be trained on how to use the disinfectant correctly. A

2010 study published in the *Journal of AOAC International* illustrates the importance of using products in accordance with label instructions. Products that dried before the recommended contact time — the length of time the surface needs to stay wet in order to achieve the level of kill listed on the product label — did not achieve optimal disinfection.

Before staff training can occur, the right disinfectant must be chosen. Germicidal efficacy, realistic contact (or dwell) time and surface compatibility should all be taken into consideration when making this decision.

When it comes to the development of disinfectants, the safety profile of the product has generally been sacrificed to achieve the highest degree of kill, putting staff at risk. A 2010 study by the Centers for Disease Control and Prevention (CDC) identified more than 150 cases of acute occupational illness in a six-year period caused by surface disinfectants that used quaternary ammonium compound chemistries — a chemical found in commonly used disinfectants today. Another CDC study found a significant increase in the rate of occupational asthma among nursing staff, which was associated with the use of disinfectants. Thankfully, there are a number of safer disinfectant products available today that provide the desired level of kill and do not pose occupational health and safety concerns.

Selecting the right disinfectant, however, is not enough to ensure the elimination of pathogens. In addition to staff training, the product must be made readily accessible. If it is locked in a housekeeping closet several feet from where it needs to be used, for example,

the area and shared patient care items are less likely to be properly disinfected.

Finally, compliance monitoring is necessary to ensure cleaning and disinfection best practices are being met. This involves the use of an ultra-violet (UV) reflectant product or adenosine triphosphate (ATP) bioluminescence. Both have their respective advantages and disadvantages. Implementation should be based on who will be conducting the validation, and how the results will be interpreted and presented. An area often misunderstood when looking at the use of ATP is that these devices are not intended to compare the effectiveness of disinfectant products. In a recent study that investigated the limitations of ATP and how different disinfectants either enhanced or quenched the tool's readings, it was concluded that ATP meters should be used with caution when validating cleaning effectiveness.

Compliance monitoring should be implemented not just for high-touch surfaces but also for shared patient care equipment. This objective measurement of cleanliness and disinfection allows the environmental services department manager to provide positive feedback when a job is done well. Perhaps more importantly, it allows for the opportunity to coach and improve cleaning practices if surfaces or shared patient care equipment were missed. ■

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