Contact Time for Disinfection of Noncritical Surfaces and Patient-Care Equipment

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Infection Control Report e-newsletter article

The CDC guideline discusses a 1-minute contact time (i.e., wet time) for low-level disinfection of noncritical environmental surfaces and patient-care equipment. In order to get EPA clearance of the CDC Guideline it was necessary to insert the sentences “By law, all applicable label instructions on EPA-registered products must be followed. If the user selects exposure conditions that differ from those on the EPA-registered product label, the user assumes liability from any injuries resulting from off-label use and is potentially subject to enforcement action under FIFRA”. There are several points that should be made about this apparent disconnect between label instructions and what scientific studies demonstrate to include: 1) multiple scientific studies have demonstrated the efficacy of hospital disinfectants against pathogens causing healthcare-associated infections with a contact time of at least 1 minute; 2) there are no data that demonstrate improved infection prevention by a 10-minute contact time versus a 1-minute contact time; and 3) we are not aware of an enforcement action by the EPA against health care facilities for “off label” use of a surface disinfectant. Further, the only way an institution can achieve a contact time of 10 minutes is to reapply the surface disinfectant multiple times to the surface (which is unlikely) as the typical dry time for a water-based disinfectant is 1.5-2 minutes. Lastly, as important as disinfectant contact time is to surface disinfection nothing is more important than the thoroughness of cleaning/disinfecting all hand contact surfaces (e.g., environmental surfaces or patient-care equipment) as current studies demonstrate that only approximately 50% of high-risk objects are cleaned/disinfected at terminal cleaning. Wiping all “hand contact” or “touchable” surfaces/equipment, and not just perceived “high risk” surfaces/equipment, is essential because “high risk” surfaces/equipment have not been epidemiologically defined. In addition, “high touch” surfaces have only recently been defined but there was no significant difference in microbial contamination of
“high”, “medium”, and “low” touch surfaces. If an institution chooses to use a product with a non-achievable label claim (e.g., 10 minutes) it should prepare a formal risk assessment (see http://www.unc.edu/depts/spice/dis/SurfDisRiskAssess2011.pdf) to be presented to surveyors (e.g., The Joint Commission) when challenged. Alternatively, the hospital could purchase and use for low-level disinfection of noncritical surfaces and patient-care equipment an EPA-registered disinfectant with an achievable contact time such as a disinfectant with a 30 second to 2 minute bactericidal claim (see http://www.epa.gov/oppad001/chemregindex.htm).

Another issue is which pathogen on the disinfectant label should be used to identify contact time (e.g., bacteria, Candida, mycobacteria, spores) for surfaces in healthcare facilities. The CDC Guideline based the 1-minute contact time on demonstration of bactericidal activity for vegetative bacteria such as S. aureus, Enterococcus, Escherichia coli, coagulase-negative Staphylococcus, Pseudomonas aeruginosa, Klebsiella spp, Enterobacter spp, etc. These vegetative bacteria are the pathogens that cause the vast majority of healthcare-associated infections (85-90%). Further, contaminated surfaces with organisms such as Candida, non-tuberculous mycobacteria and other fungi have rarely, if ever, been shown to be a risk factor for healthcare-associated infections. The only exception to this principle is the use of EPA-registered disinfectant effective against C. difficile spores or norovirus for disinfecting the rooms of patients with one of these pathogens. (see http://www.epa.gov/oppad001/chemregindex.htm).

References


