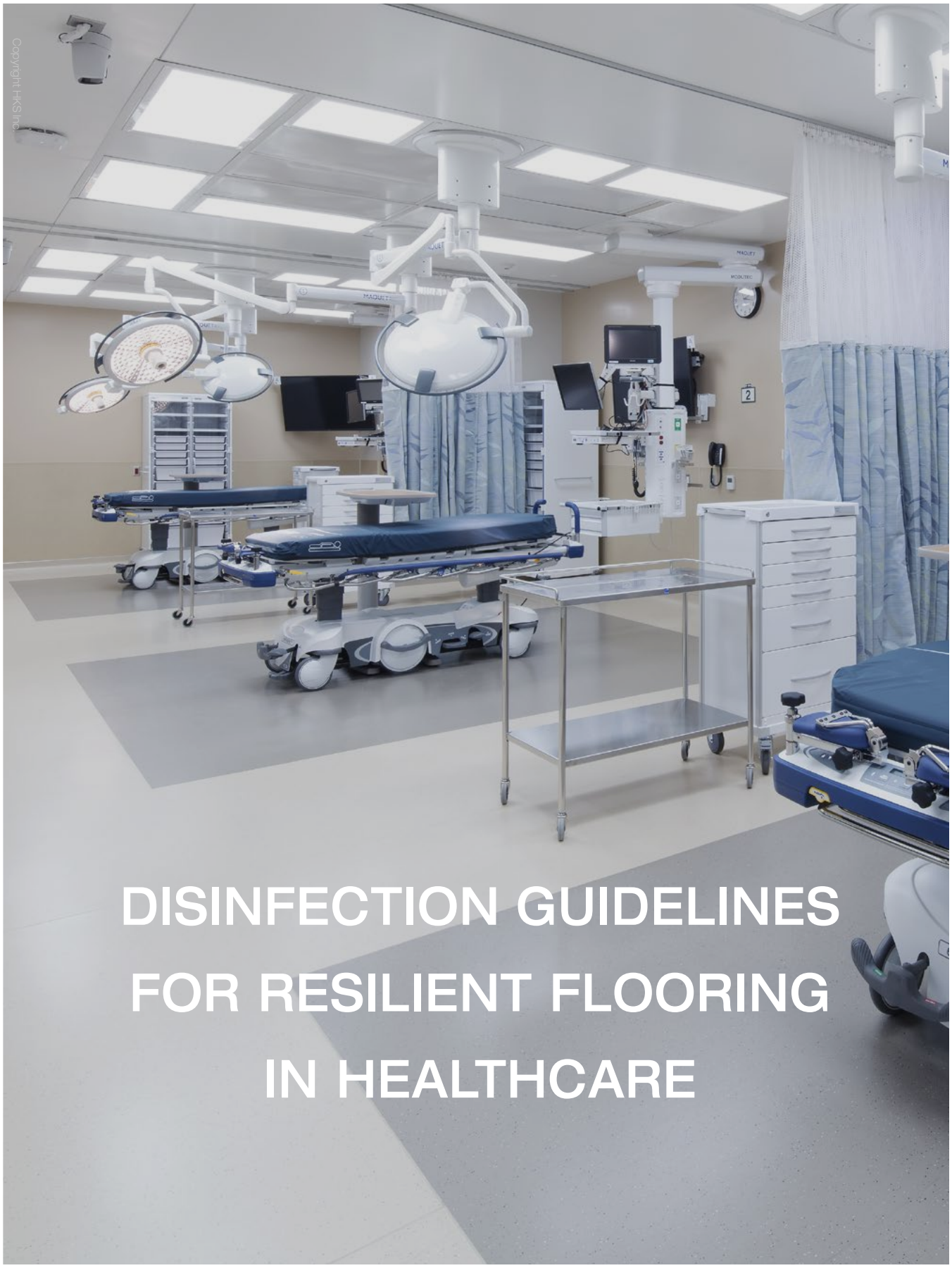

DISINFECTION GUIDELINES FOR RESILIENT FLOORING IN HEALTHCARE

MONDO | CONTRACT FLOORING

INTRODUCTION

Microscopic organisms, most often called microorganisms, are very small organisms that can only be seen through a microscope. Some of the most commonly talked about microorganisms are bacteria, viruses and fungi. While "good" microorganisms are essential to some health functions, such as the beneficial bacteria for our digestive system, other "bad" microorganisms are serious health threats, such as viruses like COVID-19, SARS and MERS. Harmful microorganisms are typically subjected to some type of decontamination process, which can either be disinfection or sterilization, based on the decontamination level required.

Disinfection is a generic term that is used to define any process that destroys/deactivates microorganisms so that they no longer pose a health threat. NOTE: Typical disinfection does not eliminate bacterial spores. When speaking of sterilization, this specifically refers to the killing of all microorganisms and their spores. For example, surgical tools are considered as critical items that must always be sterilized.

Based on his rational approach to the disinfection and sterilization of patient-care items and equipment used for healthcare, Earle H. Spaulding elaborated a classification scheme where such items are assigned to one of three groups, depending on their level of infectious risk when in use: "Critical" items, "Semicritical" items and "Noncritical" items. Noncritical items not only refer to noncritical patient care items, they also refer to noncritical environmental surfaces. Per the Spaulding Scheme, floors are categorized as noncritical surfaces[1].

There are three levels of disinfection: High-Level Disinfection (HLD), Intermediate-Level Disinfection (ILD) and Low-Level Disinfection (LLD). Each level is based on the amount and type of killing that is required for prevention and infection control. NOTE: Sterilization is always required for all items categorized as critical items. High-Level Disinfection (HLD) is required for semicritical items that will be in contact with mucous membranes or non-intact skin. Intermediate-Level Disinfection (ILD) may be required for some semicritical items and some

1. William A. Rutala, Ph.D., M.P.H., David J. Weber, M.D., M.P.H., and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008. (May 2019).

noncritical items. Low-Level Disinfection (LLD) is required for noncritical items that may come in contact with intact skin. Because floors are noncritical surfaces with very limited contact with skin, low-level disinfection is generally found to be sufficient. Research has revealed practically no recorded evidence of transmission of infectious agents to patients through noncritical items[2]. There are also supporting reasons that exist for simply using a detergent on floors, because noncritical surfaces like these contribute minimally to endemic healthcare–associated infections[3].

Decontamination processes may call upon cidal agents or static agents. The term “cidal” is used to indicate an agent that kills cells. The term “static” is used to indicate an agent that simply inhibits the growth of cells. Products labeled as bactericidal indicate that they are capable of killing bacteria, whereas products labeled as bacteriostatic (or bacteriostat) indicate that they are capable of inhibiting bacterial cell growth. With that said, an antibacterial agent can actually sometimes demonstrate bactericidal and bacteriostatic properties, depending on bacterial load and growth (e.g. it could kill off a small load of bacteria cells but may only inhibit cell growth when their presence is greater).

When considering the disinfection of noncritical floor coverings, it’s important to note that in many cases, where contamination is not suspected/possible/has been ruled out, performing simple regular cleaning will suffice. It is recommended to avoid needlessly adopting regular disinfection routines unless health safety requirements dictates they are necessary, in which case it’s recommended to follow national/international guidelines for health preservation.

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2. Weber DJ, Rutala WA. Environmental issues and nosocomial infections. In: Wenzel RP, ed. Prevention and control of nosocomial infections. Baltimore: Williams and Wilkins, 1997:491-514.

3. Maki DG, Alvarado CJ, Hassemer CA, Zilz MA. Relation of the inanimate hospital environment to endemic nosocomial infection. N. Engl. J. Med. 1982;307:1562-6.

BEST PRACTICE

Cleaning and disinfecting are independent processes; however, when considering Best Practices for disinfection, these processes are frequently interdependent, since the act of cleaning prior to the act of disinfecting has been scientifically proven to improve the effectiveness of reducing microbial activity.

CLEANING of resilient flooring surfaces in healthcare applications is recommended daily, or as spills occur, in order to remove any visible soiling, and to maintain cleanliness and aesthetic appeal. This can be done using a neutral floor detergent, following the manufacturer's label requirements. Because disinfection is usually less effective when organic and/or inorganic materials are present on the surface of the resilient flooring, and the action of cleaning alone significantly reduces microbial count, making disinfecting much more efficient. Because flooring is noncritical, in many cases cleaning will be concluded as sufficient for most areas.

DISINFECTION regimens and/or targeted contamination-specific microbial control protocols (based on immediate contamination response or other) are to be performed as needed, using a hospital-grade low-level disinfectant, as is appropriate for the area contaminated. There may be some low-level disinfectants in an RTU (ready-to-use) format that will not require dilution, but all concentrate disinfectants that require dilution before use must always be diluted/prepared according to the manufacturer's printed instructions/label. Always apply and use disinfectants on flooring surfaces respecting the necessary contact times listed for effectiveness on the pathogen of concern. Consult the EPA (Environmental Protection Agency) or the Government of Canada Web site (links available on the last page of this document) for the full lists of nationally registered floor disinfectants. Prioritize disinfectants that are non-corrosive (pH of 7 to 9), compatibles with resilient materials, that do not leave films, that offer broad-spectrum antimicrobial efficacy and reduced contact times. Low or high pH disinfectants may have an adverse effect on the surface of the flooring, and so these products should never be used outside of simple spot cleaning procedures. For standard disinfection, Mondo recommends Diversey's VIREX® II 256 disinfectant.

SPOT-DISINFECTION is usually performed using RTU (ready-to-use) spray solutions or disposable wipes. NEVER spot-disinfect with a concentrate, and avoid spotters with a pH below 2 or above 12. If spot-disinfection continuously occurs in a specific radius, rinse the surface to avoid long-term exposure repercussions from harsh products.

WARNING: *During outbreaks or severe cases of contamination, facility guidelines may require increased frequency of cleaning and disinfecting measures, including revised guidelines surrounding noncritical surfaces. Always follow national infection prevention and control guidelines. When daily disinfection is required, always rinse the flooring surface to avoid leaving harsh residues behind.*

Mops are regularly used for low-level disinfection in patient rooms, but they are not always properly cleaned and disinfected themselves; always ensure that equipment used for disinfection is clean, in good condition and appropriate for use. Whenever possible, opt for microfiber mops instead of traditional cotton mops. In addition, it is highly recommended to work with clean solutions, as it's been reported that, if the individual responsible for disinfecting the floors does not change the water-disinfectant solution regularly (e.g., after every three to four patient rooms, at no longer than 60-minute intervals), the mopping procedure can actually spread heavy microbial contamination throughout the healthcare facility[4&5].

Many experts have found that the key to successful cleaning and disinfection, more often than not, lies in a bundle approach. The Institute for Healthcare Improvement (IHI)'s Vice President and patient safety expert, Carol Haraden, PhD, explains that: "A bundle is a structured way of improving the processes of care and patient outcomes: a small, straightforward set of evidence based practices, — generally three to five — that, when performed collectively and reliably, have been proven to improve patient outcomes[6]." Environmental services bundling programs should always include clearly outlined written protocols and procedures, the mindful selection of appropriate cleaning and disinfecting chemicals, environmental services staff training, the monitoring and confirmation of effectiveness, and providing direct feedback to environmental services staff. The Center for Disease Control and Prevention (CDC) recommends environmental services bundling programs to ensure consistent cleaning and disinfection of surfaces in patient rooms. According to the Society for Healthcare Epidemiology of America (SHEA), Methicillin-resistant Staphylococcus aureus (MRSA) is one prime example of a resistant bacteria whose infectious control is best served by a bundle approach.

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4. Westwood JC, Mitchell MA, Legace S. Hospital sanitation: the massive bacterial contamination of the wet mop. 1971.
5. William A. Rutala, Ph.D., M.P.H., David J. Weber, M.D., M.P.H., and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008. (May 2019).
6. http://www.ihi.org/resources/Pages/ImprovementStories/WhatIsaBundle.aspx

MONDO RESILIENT RUBBER FLOORING FACTS

- Based on their level of infectious risk and the fact that they have very limited contact with skin, flooring surfaces, such as MONDO CONTRACT RUBBER FLOORING products, are categorized as noncritical surfaces that typically only require cleaning or cleaning and low-level disinfection.
- Mondo contract rubber flooring is vulcanized, non-porous, uniformly constructed resilient flooring that is easy to clean and does not typically provide an environment conducive to microbial growth.
- Third-party microbiological testing conducted shows that Mondo contract rubber flooring has natural bacteriostatic properties. In some cases, bactericidal properties were recorded with a limited number of pathogens.
- Third-party testing confirms Mondo contract rubber flooring offers excellent resistance to fungi, showing “No Growth” on all samples tested.
- Mondo contract rubber flooring has been tested per ISO 14644-9 Cleanrooms and Associated Controlled Environments – Part 9: Classification of Surface Cleanliness by Particle Concentration. Both Mondo smooth and textured surfaces have an ISO Surface Rating of Class 4.

NATIONALLY REGISTERED DISINFECTANTS

Disinfectants will have a Drug Identification Number (DIN) on their label. Consult the product label to locate its DIN and cross-reference with any of these national sites:

https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants

https://www.canada.ca/en/public-health/services/publications/diseases-conditions/cleaningdisinfectingpublic-spaces.html

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