

Soft Surface Sanitizing

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One component of a comprehensive infection prevention and control program that is often confusing or overlooked is sanitizing soft porous surfaces, such as canvas, polyester, nylon, and the like. All soft surfaces have the potential to harbor pathogenic microorganisms and are capable of causing healthcare-associated infections (HAIs). Pathogens on soft surfaces can survive for prolonged periods of time and can be transferred to the hands and items used or worn by staff and patients who touch a contaminated soft surface, and then transferred to other surfaces, as well as directly to patients. Table 1 contains a list of soft surface items and supplies used when caring for patients in the home or in a facility-based hospice setting. The influenza virus has been shown to persist on soft surfaces for several hours (Baker et al., 2001), with methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE) remaining on fabrics like polyester for up to 2 to 3 months (Neely & Maley, 2000). VRE has been shown to transfer from upholstery and fabric cushions to people (Noskin et al., 2000). The staff's clothing may also harbor pathogenic organisms. One study found that 65% of nurses who treated MRSA patients had MRSA-contaminated uniforms (Borkow & Monk, 2012). See McGoldrick (2014) for a description of strategies for preventing crosscontamination via staff's clothing. It is because of these prolonged pathogen survival times and the potential for transfer of

pathogenic organisms to patients that soft surfaces need to be included in the organization's routine cleaning activities.

It is important to understand that there are differences between cleaning, sanitizing, and disinfecting. Only a hard, nonporous surface can be disinfected. Cleaning refers to the physical

a product to achieve a soft surface sanitizing claim by the EPA, the manufacturer must demonstrate a 99.9% reduction efficacy on cotton and polyester soft surfaces using test organisms to include *S. aureus* and *Enterobacter aerogenes* or *Klebsiella pneumoniae* only (EPA, 2014b). Products with a soft surface



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removal of visible soil and organic contamination by washing or wiping with a detergent and should be performed prior to any sanitization or disinfection procedure so that the product can work effectively without the presence of soil (Centers for Disease Control and Prevention [CDC], 2008). Sanitizers reduce the level of microorganisms, or decontaminants, on an inanimate surface to render the surface "safe," but do not necessarily eliminate microorganisms (Sehulster, Chinn, CDC, & Healthcare Infection Control Practices Advisory Committee, 2003, EPA, 2014a).

There is a U.S. Environmental Protection Agency (EPA) claim specific for products approved for soft surface sanitizing for use in healthcare environments. For

sanitizing claim do not provide a claim for efficacy against viruses, fungi, mycobacteria, or bacterial spores. Sanitizing does not achieve the same kill level as a disinfection claim. To make a soft surface sanitizer product claim, product testing is performed on 100% cotton and 100% polyester soft surfaces, which does not address the myriad of fabrics and textiles encountered in caring for a home care or hospice patient. Using a product that has an EPA-registered soft surface sanitizing claim may be beneficial, but is not required. All EPA-registered disinfectants can sanitize (i.e., reduce the amount of organisms present on a surface); however, not all sanitizers are capable of disinfecting. Some EPA-registered products are of multiuse and can

be used on both hard and soft surfaces. To select a product for use on a soft surface, the product selected must be registered with the EPA, and be used according to the manufacturer's labeled instructions for relevant kill claims and approved uses, including concentration and contact time. Contact time is the amount of time that the item or surface is to be kept "wet" with the disinfectant up through the complete drying of the disinfectant on the surface (McGoldrick, 2009). It is important to note when using an EPA-registered wipe or spray to sanitize a surface that the product's evaporation rates will vary based on the room's humidity, temperature, and airflow. This is an important consideration, as the product may need to be reapplied to achieve the recommended contact time.

Home care and hospice staff can enhance their infection prevention and control program to include soft surfaces by:

1. Routinely laundering soft surfaces that can be laundered.
2. Using an EPA-registered product on soft surfaces that cannot be laundered or using it in between laundering to reduce the level of microorganisms.

When a soft surface can be laundered, the first method of choice for sanitizing is laundering and wiping or spraying the surface (if applicable) in between laundering. Using a soft surface sanitizer does not eliminate the need for laundering soft surfaces that can be laundered. Soft surface sanitizing for treating soft surfaces that are not soiled with blood and body fluids should be performed on a "regular basis." The time frame of a "regular basis" or "routine laundering"

Table 1. Home Care and Hospice Soft Surface Items

Soft Surface Items Used on or by Patients
Blood pressure cuff
Pulse oximeter (interior finger pad)
Gait belt
Medical mattress cover
Infusion pump storage bag (fanny pack, backpack, shoulder bag, rolling bag)
Pillows (reusable)*
Linen (bedding, sheets, gown, towels)*
Upholstered furniture (chairs, couches, drapes in patient rooms and family areas)*
Soft Surface Items Used by Staff
Staff's attire (lab coat, uniform, lanyard on name badge)
Nursing bag (rolling, shoulder bag, hand carried, backpack)
Office supplies: wrist support for keyboard or mouse pad, mouse pad, desk chair
*Items located in a facility owned or operated by a hospice.
Source: Adapted from McGoldrick, M. (In press). Cleaning and disinfection: Soft surface sanitizing. In <i>Home Care Infection Prevention and Control Program</i> . Saint Simons Island, GA: Home Health Systems, Inc.

should be defined in the organization's policies and procedures, and understood by staff for consistent implementation.

Regularly treating soft surfaces can minimize the risk for transferring pathogens to the patient and staff and reduce the patient's risk for acquiring an HAI, but it will not eliminate it. Hand hygiene still needs to be performed using the correct technique and when indicated to prevent the transfer of organisms via the staff's hands. Adding soft surface sanitization to the bundle of infection prevention strategies implemented in the home and inpatient hospice setting is an important component of a comprehensive infection prevention and control program. ■

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