

The CDC recommends hospitals and alternate care sites clean and disinfect environmental hard surfaces in order to protect patients and clinical staff from contact with blood and other potentially infectious materials.



HARD SURFACE DISINFECTION: BREAKING THE CHAIN OF CROSS-CONTAMINATION & INFECTION

The Hepatitis B virus can survive for at least one week in dried blood on environmental surfaces or on contaminated needles and instruments, according to the CDC.¹ Other studies have demonstrated that contact with contaminated environmental surfaces may result in frequent transfer of Vancomycin-Resistant Enterococci (VRE) onto gloved hands without any direct patient contact.²

These findings reinforce the recommendation that hospitals and alternate care sites have adequate procedures for cleaning and disinfecting environmental hard surfaces; and that healthcare workers should sanitize their hands after touching environmental surfaces and patient care equipment.

OSHA and APIC have established guidelines to help facilities write and implement procedures to maintain clean and sanitary environments and ways to prevent contact with blood or other potentially infectious materials.

Developing an Appropriate Schedule

Each facility has different needs to consider when dealing with contaminated surfaces and patient care equipment. The facility should determine and implement an appropriate written schedule for cleaning and methods of decontamination. The written schedule should be based on the:

- Location within the facility
- Type of surfaces to be cleaned
- Type of soil present
- The tasks or procedures to be performed in the area

Choosing Appropriate Disinfectants

Appropriate or approved disinfectants are determined by the EPA (U.S. Environmental Protection Agency), which oversees the registration of anti-microbial products.

Selecting the appropriate disinfectant is dependent on the item to be cleaned; the level of disinfection needed; and the cost, safety, and ease of use of the product.



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Classification of Devices, Processes, and Germicidal Products

DEVICE CLASSIFICATION	DEVICE EXAMPLES	DISINFECTION PROCESS CLASSIFICATION	EPA PRODUCT CLASSIFICATION
Critical (enters sterile tissue or vascular system)	Implants, scalpels, needles, other surgical instruments	Sterilization – sporicidal chemical; prolonged contact	Sterilant/disinfectant
Semicritical (touches mucous membranes)	Flexible endoscopes, laryngoscopes, endotracheal tubes, and other similar instruments	High-level disinfection sporicidal chemical; short contact	Sterilant/disinfectant
	Thermometers, hydrotherapy tanks	Intermediate-level disinfection	Hospital disinfectant with label claim for tuberculocidal activity
Noncritical (touches intact skin)	Stethoscopes, tabletops, bedpans, etc.	Low-level disinfection	Hospital disinfectant without label claim for tuberculocidal activity

Delivery Systems

Part of the decision-making process in choosing the right types of disinfectants for given situations is regulated by OSHA and EPA. The other part of the decision-making process to be considered is facility driven: choosing the right delivery system that facilitates compliance to house-keeping policies and procedures.

Choosing a delivery system that is inconvenient for staff may have “hidden costs” that can lead to improper cleaning or non-compliance. Here are some things to consider when selecting an appropriate disinfectant delivery system:

- Does the product allow the user to dispense and use the solution in the safest, most efficient way?
- Upon application, does the disinfectant consistently provide the correct concentrations to assure proper strength of solution, or does it need to be checked periodically?
- Have ancillary items such as wiping cloths, buckets, and preparation time been considered in the cost per use?
- What is the accessibility of the disinfectant in relation to where it will be used?
- Does the manufacturer provide compliance materials and in-servicing support for the staff?

Allow staff to evaluate all products under consideration. The feedback received will be indicative of how well the product will be accepted and used, and will help answer the questions outlined above.

Breaking the chain of cross-contamination and infection is the responsibility of all healthcare professionals. Taking the time and effort up front to implement and maintain good disinfection practices saves time, money, and lives.

¹ OSHA Bloodborne Pathogen Standard [1910.1030]; Housekeeping Module.

² Tenorio AR, Badri SM, Sahgal NB, et al. Effectiveness of gloves in the prevention of hand carriage of vancomycin-resistant Enterococcus species by health care workers after patient care. Clin Infect Dis. 2001; 32:826-829.

³ APIC Guideline for Selection and Use of Disinfectants; AJIC; Vol. 24, No. 4, p. 315, August 1996

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