

WIPAG

WY Infection Prevention Orientation Manual

Section #9, Environmental Services

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Section #9: Environmental Services

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Objectives

At the completion of this section the Infection Preventionist (IP) will:

- List the considerations for choosing cleaning products
- List the hierarchy for cleaning and disinfection of equipment (Spaulding classification)
- List methods to evaluate the cleaning process in the healthcare environment

Number of hours

- Key Concepts – 6 hours
- Methods - 4 hours

Required Readings

- Wyoming Infection Prevention Orientation Manual, Section #8 Medical Instrument and Device Reprocessing

Overview

Environmental cleaning in the healthcare setting is one of the most often overlooked but key elements in infection prevention. The discipline is generally unseen unless there are problems. The current versions of the regulatory standards for healthcare facilities, including the Centers for Medicare and Medicaid Services (CMS), the Joint Commission and the Healthcare Facilities Accreditation Program do not have specific standards for environmental cleaning and hygiene; they are scored in the infection prevention and leadership standards. Therefore IP must be intimately involved with the development and monitoring of the environmental services (EVS) department's activities. The entire process of cleaning should be monitored by a multi-disciplinary team of administration, infection prevention, and the EVS personnel.

Key Concepts

Dr. E. H. Spaulding classified the cleaning of medical equipment into three general levels: non-critical, semi-critical, and critical. Each of these levels in the classification system is based on the relative risk of the transmission of an infection in the healthcare setting. The plan for cleaning the healthcare environment should evolve from an assessment of the relative risk of infection based on the Spaulding classification, and then scheduled accordingly. For more information on the specifics of cleaning and disinfecting medical devices and equipment, please read the Medical Instrument and Device Reprocessing section (Section #8) of the Wyoming Infection Prevention Orientation Manual.

Proper cleaning and disinfection of the environment requires the right combination of:

- Equipment (wipes, mops, automated washers, etc.)
- Supplies (soaps, detergents, disinfectants, etc. at the correct dilutions and for the correct duration of contact time)
- Personnel (environmental services staff)
- Training (of those staff on the proper use of said equipment and supplies and compliance with facility policies)

- Monitoring (of policies and procedures related to cleaning, as well as the overall effectiveness and efficiency of cleaning).

Individuals responsible for the cleaning and disinfection of equipment and healthcare environment must receive adequate and appropriate training. Training should be conducted as part of general orientation, remediation (if there are issues or concerns identified), and re-training as products or methods change. Documentation of training should be available to the IP. There should be agreement in the policies as to what constitutes “clean” and how the process is monitored and maintained.

Methods

Check lists are invaluable in guiding and tracking the effectiveness and efficiency of cleaning and disinfection processes and procedures. The selection and methods of cleaning and disinfection are essential to a successful program.

The IP and/or EVS director are responsible for developing a cleaning matrix that includes: the frequency, the product, the responsible individual and any essential comments. The IP meets with the department heads to develop this matrix.

Exercise #1: Prepare a matrix that lists equipment, the type of detergent/disinfectant that should be used, the frequency of cleaning and disinfecting, the responsible party, and any pertinent comments related to the process. Use Table 1 to get started.

Wheelchairs should be assigned “owners” by department to assure their cleanliness. All “rolling stock” should be itemized in this matrix.

Table 1. Items in the healthcare environment that must be cleaned/disinfected.

Item	Frequency of cleaning/disinfection	Product (s) used to clean/disinfect	Responsible party/department	Comment
Wheel Chairs EXAMPLE	Weekly	Quaternary ammonium product or other low-level disinfectant	Admitting	Clean with high level disinfectant when grossly soiled
IV pumps (attached to patients)				
Ventilators in use				
Ventilators in storage				

IV poles				
Over bed table in use				
Transport gurney				
B/P cuff				
Patient sling				
Bed pan				
Stethoscope				
Glucometer platform				
Electronic thermometers				
Beds				
Call bell				
Floors (patient/resident room, bathroom, etc.)				
Miscellaneous Furniture				

Documentation and Reporting

Documentation of the cleaning/disinfection process helps assure compliance. Additionally,

documentation allows EVS managers and the IP to be informed when remediation is needed and to recognize EVS staff when goals are exceeded. Documentation also provides evidence for remediation and reward of met/exceeded goals. It is also used to evaluate the availability of cleaning equipment and the competency of the staff to use and clean the equipment properly. A variety of commercial methods that can be utilized to verify a particular environment is clean. These methods include fluorescent markers (Dazo®) and adenosine triphosphate bioluminescence assay.

The use of environmental culturing as an option for cleaning evaluation has serious limitations and should only be undertaken with the assistance and support of the IP, the hospital or associated microbiology laboratory, administration, and EVS.

Exercise #2: Prepare and complete a list of equipment, an evaluation of the cleaning, and any pertinent comments related to the process in Table 2. Use the check list provided by the Centers for Disease Control and Prevention (CDC) shown in the Appendix or at www.cdc.gov/HAI/toolkits/Environmental-Cleaning-Checklist-10-6-2010.pdf

Table 2. General Housekeeping, equipment and physical environment cleaning.

Item/Equipment	Compliant with cleaning policy			Comment
	Yes	No	N/A	
Bed rails free of dirt, fingerprints				
Bed frames free of dust and spilled material				
Television remote cleaned				

Equipment cleaning				
Item/Equipment	Compliant with cleaning policy			Comment
	Yes	No	N/A	
Hospital approved disinfectant available for use at location?				
Equipment is clean and free of dust, fingerprints, dried materials?				
Physical environment cleaning				
Item/Equipment	Compliant with cleaning policy (mark appropriate box)			Comment
	Yes	No	N/A	
Walls clean and free of hand prints				
Corridors and behind doors free of dust accumulation				
Outside of trash containers clean				

Other Issues

Healthcare facilities must have a process in place to approve disinfectants, including those used by EVS, respiratory therapy, endoscopy etc. The U.S. Environmental Protection Agency (EPA) must approve all agents used in the healthcare facility. The approval for products can be found by agent on the EPA website www.epa.gov/oppad001/chemregindex.htm.

CMS regulation 42 CFR 482.42(a) recommends an annual review of all disinfecting products used by the healthcare facility be conducted by the infection prevention committee. This approval should be done based on the active ingredient as opposed to the “trade name” e.g. *ortho*-phthalaldehyde not Cidex OPA®. Disinfectants must be used as directed by the manufacturer. Specific product use directions and guidelines can be found on the product website. Product indications and limitations for Cidex OPA® can be found at www.aspjj.com/us/products/cidex-opa/specs#page_content. Auto-dilutors must be measured and calibrated by the manufacturer, and the results of these calibration activities documented and available; both internally (as by the IP) and externally (as by healthcare licensing).

Exercise #3: Perform a survey of your facility to determine what disinfectants, cleansers and detergents are currently in use. Complete Table 3 by entering the trade name, active ingredient, proper dilution and whether or not the dilution has been verified to be accurate and according to manufacturer’s instructions.

Table 3. Facility disinfectants and cleansers.

Disinfectant/cleanser (trade name)	Active ingredient	Proper dilution	All dilutions have been verified as correct. (date)

The director of Environmental Services and the IP should review findings of the cleaning evaluations, new concepts or techniques. The EVS director is an essential member of the Infection Prevention Committee and should attend all meetings.

Exercise #4: schedule a meeting with your EVS director to review the contents of this section and meet regularly.

Resources

Helpful/Related Readings

- Rutala W, Weber DJ, et al. *Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008*. Centers for Disease Control and Prevention. 2008. Available at: www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf.
- Guh A, Carling P, et al. *Options for Evaluating Environmental Cleaning*. Centers for Disease Control and Prevention. 2010. Available at: www.cdc.gov/HAI/pdfs/toolkits/Environ-Cleaning-Eval-Toolkit12-2-2010.pdf.
- Carling P, Parry MM, Rupp ME, et al. Improving cleaning of the environment surrounding patients in 36 acute care hospitals. *Infection Control and Hospital Epidemiology* 2008; 29:11, 1035-1041.
- Boyce J, Havill NL, Lipka A, Havill H, Rizvani R. Variations in hospital daily cleaning practices. *Infection Control and Hospital Epidemiology* 2010; 31, 1:99-101.
- Grota P, Allen V, Boston KM, et al, eds. *APIC Text of Infection Control & Epidemiology. 4th Edition*. Washington, D.C.: Association for Professionals in Infection Control and Epidemiology, Inc.; 2014.
 - Chapter 31, Cleaning, Disinfection, and Sterilization, by WA Rutala and DJ Weber
 - Chapter 107, Environmental Services, by T Chou
 - Chapter 111, Laundry, Patient Linens, Textiles, and Uniforms, by C McLay
 - Chapter 113, Waste Management, by WJ Pate
- Bennett J and Brachman P, eds. *Bennett & Brachman's Hospital Infections. 6th Edition*. Philadelphia, PA: William R Jarvis; 2014.
 - Chapter 19, The Inanimate Environment, by JM Boyce
 - Chapter 20, Disinfection and Sterilization in Healthcare Facilities, by WA Rutala and DJ Weber
- Bennett G, Morrell G and Green L, ed. *Infection Prevention Manual for Hospitals; revised edition*. Rome, GA: ICP Associates, Inc.; 2010.
 - Section 6: pages 6-7 and 23-24
 - Section 10, pages 1-32.
- Bennett G. *Infection Prevention Manual for Ambulatory Care*. Rome, GA: ICP Associates Inc.; 2009. Section 7, pages 6-9, and 12-14.
- Bennett G and Kassai M. *Infection Prevention Manual for Ambulatory Surgery Centers*. Rome, GA: ICP Associates, Inc.; 2011.
 - Section 6: pages 8-14, 20-26, 27-28, 43-46
 - Section 7, pages 11-17
 - Section 11, pages 12-13, 16-17.
- Schweon S, Burdsall D, Hanchett M, et al. *Infection Preventionist's Guide to Long-Term Care*. Washington, D.C.: Association for Professionals in Infection Control and Epidemiology, Inc.; 2013.
 - Chapter 10, Environment and Equipment, by D Green and SJ Schweon
- Code of Federal Regulations, specifically 40 CFR 152. Available at: www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr152_main_02.tpl
- Code of Federal Regulations, specifically 40 CFR 455. Available at: www.ecfr.gov/cgi-bin/text-idx?SID=db5bce30144eaaacf0b976fbf1ebd46d&node=pt40.30.455&rgn=div5
- Mayhall CG ed. *Hospital Epidemiology and Infection Control (4th Edition)*. Philadelphia, PA: Lippincott Williams & Wilkins, a Wolters Kluwer business; 2011.
 - Chapter 71, Healthcare-Associated Infections and the Environment, by AJ Streifel
 - Chapter 72, Microbiologic Sampling of the Environment in Healthcare Facilities, by

LM Schulster, LJ Rose, J Novle-Wang

- Chapter 80, Selection and Use of Disinfectants in Healthcare, by WA Rutala and DJ Weber

Helpful Contacts (in WY or US)

- David Woodard, Contractor in healthcare environmental services, dwood1492@gmail.com, 702-686-7823
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Related Websites/Organizations

- Centers for Disease Control and Prevention (CDC): www.cdc.gov
- U.S. Environmental Protection Agency (EPA): www.epa.gov/
- National Institute for Occupational Safety and Health (NIOSH): www.cdc.gov/niosh/
- Association for the Healthcare Environment (AHE; part of the American Hospital Association): www.ahe.org/

My Facility/City/County Contacts in this Area

Position	Name	Contact #	E-mail
Director of Environmental Services			
Infection Prevention Committee Lead			
Infection Prevention Committee members			

Disclaimer

The products and methods mentioned in this section are provided as examples, not as endorsements.

Appendix: CDC Environmental Services Cleaning Checklist

For the most current version, please visit <http://www.cdc.gov/HAI/toolkits/Environmental-Cleaning-Checklist-10-6-2010.pdf>

CDC Environmental Checklist for Monitoring Terminal Cleaning¹

Date:	
Unit:	
Room Number:	
Initials of ES staff (optional):²	

Evaluate the following priority sites for each patient room:

High-touch Room Surfaces ³	Cleaned	Not Cleaned	Not Present in Room
Bed rails / controls			
Tray table			
IV pole (grab area)			
Call box / button			
Telephone			
Bedside table handle			
Chair			
Room sink			
Room light switch			
Room inner door knob			
Bathroom inner door knob / plate			
Bathroom light switch			
Bathroom handrails by toilet			
Bathroom sink			
Toilet seat			
Toilet flush handle			
Toilet bedpan cleaner			

Evaluate the following additional sites if these equipment are present in the room:

High-touch Room Surfaces ³	Cleaned	Not Cleaned	Not Present in Room
IV pump control			
Multi-module monitor controls			
Multi-module monitor touch screen			
Multi-module monitor cables			
Ventilator control panel			

Mark the monitoring method used:

- Direct observation Fluorescent gel
 Swab cultures ATP system Agar slide cultures

¹Selection of detergents and disinfectants should be according to institutional policies and procedures

²Hospitals may choose to include identifiers of individual environmental services staff for feedback purposes.

³Sites most frequently contaminated and touched by patients and/or healthcare workers





WIPAG welcomes your comments and feedback on these sections.
For comments or inquiries, please contact:

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