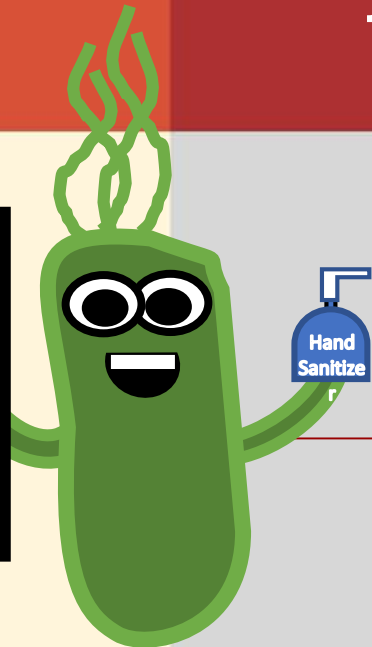


Environmental Cleaning in Healthcare Facilities

Brittany Grace, MPH, LEHS, Epidemiologist
Carolyn E. Jackson, RN, MA, CIC, Nurse Consultant
Division of Infection Prevention and Control

January 24, 2019

**LTC
Webinar
Series
Webinar
#9**





Objectives

- Discuss environmental cleaning results from the long-term care ICAR assessments
- Review the process for CMS environmental observations
- Identify types of microorganisms commonly found on environmental surfaces
- Discuss the Spaulding method of classifying categories for appropriate cleaning within the health care setting
- List types of disinfectants which are appropriate for routine and terminal cleaning
- Review EVS staff training and tools for audit and competency validation



Environmental Cleaning Results

ICAR (Infection Control and Response) Results: 2016-2018

Environmental Cleaning Results (n=32)

Environmental Cleaning Question	# of Yes Responses	% Yes Responses
Written cleaning/disinfection policies which includes routine/terminal cleaning/disinfection of resident rooms	29	91%
Written cleaning/disinfection policies which includes routine/terminal cleaning/disinfection of rooms of residents on contact precautions	26	81%
Written cleaning/disinfection policies which includes cleaning/disinfection of high-touch surfaces	27	84%
Written cleaning/disinfection policies which includes handling of equipment shared by residents	28	88%
Policies/procedures that ensures reusable medical devices are cleaned and reprocessed appropriately prior to use on another patient	30	94%





Environmental Cleaning Results (n=32)

Environmental Cleaning Question	# of Yes Responses	% Yes Responses
Personnel receive job-specific training/competency validation on cleaning/disinfecting procedures at time of employment	22	69%
Personnel receive job-specific training/competency validation on cleaning/disinfecting procedures annually	19	59%
Audits (monitors and documents) quality of cleaning/disinfecting procedures	23	72%
Provides feedback to personnel regarding the quality of cleaning/disinfecting procedures	22	69%
Supplies necessary for appropriate cleaning/disinfection procedures available	32	100%



CDC Guidelines and CMS Regulations and Observations

CDC Guidelines (updated February 2017)

Guidelines for Environmental Infection Control in Health-Care Facilities (2003)

Guidelines for Environmental Infection Control in Health-Care Facilities

Recommendations of CDC and the Healthcare Infection Control
Practices Advisory Committee (HICPAC)

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention (CDC)
Atlanta, GA 30329

2003

 **Ebola Virus Disease Update [August 2014]:** The recommendations in this guideline for Ebola has been superseded by these CDC documents:

- [Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Virus Disease in U.S. Hospitals](https://www.cdc.gov/vhf/ebola/healthcare-us/hospitals/infection-control.html) (<https://www.cdc.gov/vhf/ebola/healthcare-us/hospitals/infection-control.html>)
- [Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus](https://www.cdc.gov/vhf/ebola/healthcare-us/cleaning-hospitals.html) (<https://www.cdc.gov/vhf/ebola/healthcare-us/cleaning-hospitals.html>)

See CDC's [Ebola Virus Disease website](https://www.cdc.gov/vhf/ebola/index.html) (<https://www.cdc.gov/vhf/ebola/index.html>) for current information on how Ebola virus is transmitted.



Available from:
<https://www.cdc.gov/infectioncontrol/guidelines/environmental/>

<https://www.cdc.gov/infectioncontrol/pdf/guidelines/environmental-guidelines.pdf>



MARYLAND
Department of Health

42 CFR 483.80 – Infection Control

- (iv) **The physical environment**, equipment, services, and other physical plant considerations that are necessary to care for this population; and
- (v) Any ethnic, cultural, or religious factors that may potentially affect the care provided by the facility, including, but not limited to, **activities and food and nutrition services**.
- (2) The facility's resources, including, but not limited to,
 - (i) All buildings and/or other physical structures and vehicles;
 - (ii) **Equipment (medical and non-medical)**;
 - (iii) **Services** provided, such as **physical therapy, pharmacy**, and specific **rehabilitation** therapies;
 - (iv) All personnel, including managers, staff (both employees and those who provide services under contract), and volunteers, as well as their **education and/or training and any competencies related to resident care**

42 CFR 483.80 – Infection Control

- (v) Contracts, memorandums of understanding, or other agreements with third parties to provide services or equipment to the facility during both normal operations and emergencies; and
- (vi) Health information technology resources, such as systems for electronically managing patient records and electronically sharing information with other organizations.
- (3) A facility-based and community-based risk assessment, utilizing an all-hazards approach.
- (f) Staff qualifications
- (1) The facility must employ on a full-time, part-time, or consultant basis those professionals necessary to carry out the provision of these requirements.
- (2) Professional staff must be licensed, certified, or registered in accordance with applicable State laws.

Summary of Important Points:

- Each facility needs an “infection control program”
 - Must be written
 - Primary goal is to prevent infection by use of five essential elements:
 - Prevention
 - Identification
 - Reporting
 - Investigating
 - Controlling Infection
- Proper linen care, storage, and removal
- Flu and pneumonia vaccines given to prevent illness
 - Flu vaccine to all residents and staff – mask policy for anyone who says no
 - Both pneumonia vaccines given to all residents and staff over 65 years of age
- Help in the development of an Antibiotic Stewardship Program

CMS Survey Requirements

- Go to <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Nursing-Homes.html>
- Click on “LTC Survey Pathways”
- Folder of all the survey requirements (personal communication, 2018)



Critical Elements of CMS Environmental Observations

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR MEDICARE & MEDICAID SERVICES

Environmental Observations

Environmental Observation: Complete this review if environmental concerns were identified through observation, or resident or representative interviews. Investigate the CE(s) applicable to the Initial Pool information that triggered the task as indicated in the table below. If concerns are identified, review the facility's policies, procedures, and systems.

Triggered From the Initial Pool Process:	CE(s) to be Completed:
<input type="checkbox"/> Accommodation of Needs (Physical) - RI, RRI, RO	1
<input type="checkbox"/> Call Light Functioning – RI, RRI, RO	2
<input type="checkbox"/> Sounds Levels – RI, RRI, RO	3
<input type="checkbox"/> Temperature Levels – RI, RRI, RO	4
<input type="checkbox"/> Lighting Levels – RI, RRI, RO	5
<input type="checkbox"/> Clean Building – RI, RRI, RO	6
<input type="checkbox"/> Building and Equipment Good Condition – RO	7 and 8
<input type="checkbox"/> Homelike – RO	9
<input type="checkbox"/> Lack of Hot Water – RI, RRI, RO	10
<input type="checkbox"/> Linens – RI, RRI, RO	11
<input type="checkbox"/> Pest Control – Review if concerns are identified onsite	12
<input type="checkbox"/> Ventilation – Review if concerns are identified onsite	13
<input type="checkbox"/> Handrails – Review if concerns are identified onsite	14
<input type="checkbox"/> Other Environmental Conditions – Review if concerns are identified onsite	15

Homelike, Hot water, and Linens

Homelike: Review this CE if there are concerns with the resident's room being homelike through observations.

☐ Interview staff if observations revealed the resident's room is not homelike to determine how the facility has addressed the concern.

9. Are the residents allowed to have personal belongings, to the extent possible, creating a homelike environment?

☐ Yes ☐ No F584 ☐ NA

Lack of Hot Water: Review this CE if there are concerns by the resident, representative, or through observations with the hot water being too cool.

☐ Interview staff if the resident or representative complained about the hot water being too cool or observations revealed the hot water in the resident's room, bathroom, or bathing facilities is too cool to determine how the facility has addressed the concern.

10. Are water temperatures comfortable? ☐ Yes ☐ No F584 ☐ NA

Linens: Review this CE if there are concerns by the resident, representative, or through observations with the linens being soiled.

☐ Interview staff if the resident or representative complained about the linens being soiled or observations revealed soiled linens to determine how the facility has addressed the concern.

☐ Refer to the Incontinence or Infection Control pathways, as needed, for additional investigative guidance.

11. Are there clean bed and bath linens in good condition available for the resident? ☐ Yes ☐ No F584 ☐ NA



Infectious agents found in healthcare settings

Infectious Agents

Healthcare-associated Infections



TYPES OF HEALTHCARE-
ASSOCIATED INFECTIONS

PREVENTING HEALTHCARE-
ASSOCIATED INFECTIONS

HAI DATA AND STATISTICS

STATE-BASED HAI PREVENTION

GUIDELINES &
RECOMMENDATIONS

INNOVATIVE RESEARCH TO
SUPPORT SAFE HEALTHCARE

PATIENT SAFETY: WHAT YOU CAN
DO TO BE A SAFE PATIENT

LABORATORY RESOURCES

CONTAINMENT STRATEGY
RESPONDING TO EMERGING AR
THREATS



Prevention Resources by Healthcare Settings

Outpatient Settings

Nursing Homes and Assisted Living (Long-term Care Facilities)

Dialysis Safety

Infection Control in Dental Settings



How Long Bacteria Last in the Environment

Pathogen (Germ)	Survival Time on Dry Surfaces
Acinetobacter spp. (ACBA)	3 days – 5 months
Bloodborne pathogens (hepatitis)	> One week
Clostridium difficile (spores)	5 months
Escherichia coli	1.5 hours – 16 months
Enterococcus (VRE and VSE)	5 days – 4 months
Klebsiella spp	2 hours - > 30 months
Mycobacterium tuberculosis (TB)	1 day – 4 months
Pseudomonas aeruginosa	6 hours – 16 months
Serratia marcescens	3 days – 2 months
Staph: MSSA, MRSA	7 days – 7 months
Streptococcus pyogenes (GAS)	3 days – 6.5 months

Kramer et al. (2006) BMC Infect Dis 2006;6:130e137



MARYLAND
Department of Health



Clostridioides difficile



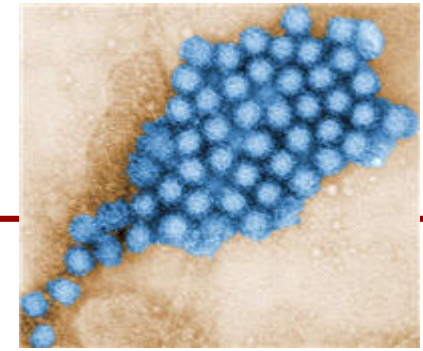
- Gram-positive, anaerobic bacillus bacteria that produces 2 exotoxins
- *C. difficile* causes - Antibiotic-associated diarrhea (AAD)
- *C. difficile* can causes:
 - Perforation of the colon
 - Sepsis
 - Death
- People with increased risk for this infection or colonization are:
 - Antibiotic exposure
 - Gastrointestinal surgery
 - Long stays in healthcare settings
 - Advanced age (CDC, 2012)
- Clean and disinfect surfaces using an EPA-registered disinfectant with a label claim against *C. difficile* spores (EPA List K)

Source: CDC



Norovirus

Source: CDC



- Norovirus is a small, non-enveloped viruses
- Highly infectious and 2nd most frequent cause of acute GI infections (Thompson, 2012)
- Symptoms include:
 - Nausea
 - Vomiting
 - Diarrhea
 - Stomach cramping
- Those most at risk include:
 - Young children
 - The elderly
 - People with other medical illnesses (CDC, 2018)
- Clean and disinfect surfaces using an EPA List G disinfectant (EPA, 2018)



Candida auris

- Yeast that causes serious infections
- *C. auris* does not respond to commonly used antifungal drugs
- *C. auris* can cause:
 - Bloodstream infections
 - Wound infections
 - Ear infections
- Those most at risk include:
 - Recent surgery
 - Diabetes
 - Broad-spectrum antibiotic and antifungal use
 - Long stays in healthcare settings
 - Individuals with indwelling devices
- Clean and disinfect surfaces using an EPA List K disinfectant (CDC, 2018)



Source: CDC



Categories for appropriate cleaning

Spaulding Classification



Spaulding Classification of Surfaces

1. Critical – objects which enter normally sterile tissue or the vascular system and require sterilization
2. Semi-critical – objects that contact mucous membranes or non-intact skin and require high-level disinfection, which kills all but high-levels of bacterial spores
3. Non-critical – objects that contact intact skin but not mucous membranes, and require low-level disinfection (CDC, 2017)

Antiseptics vs. Disinfectants

Antiseptics

- Regulated by the FDA
- Antiseptics help stop the growth of microorganisms and are used on **living tissue**
- Examples:
 - Chlorohexidine
 - Peroxide
 - Alcohol

Disinfectants

- Regulated by the EPA
- Disinfectants help stop the growth of microorganisms and are used on **non-living items**
- Examples:
 - Chlorine
 - Hypochlorite
 - Quaternary ammonium

Noncritical Patient-Care Items

- Noncritical patient-care items are items that contact intact skin, but not mucous membranes
- Examples include:
 - Bedpans
 - Blood pressure cuffs
 - Crutches
 - Computers (Rutala, 2017)
- Clean and disinfect using a low to intermediate level disinfectant depending on the nature and degree of contamination (DHHS, 2017)





Spaulding Classification

Noncritical Environmental Surfaces

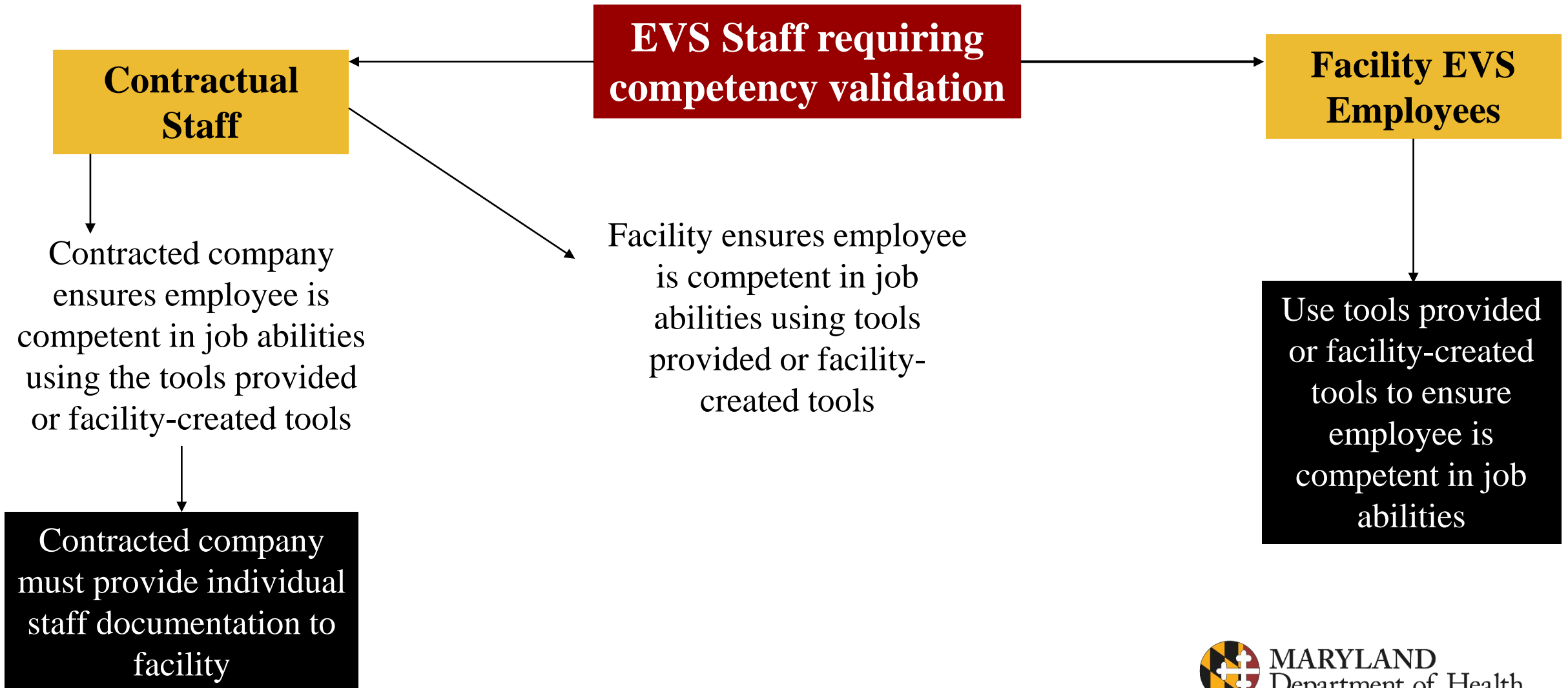
- Noncritical environmental surfaces are surfaces frequently touched by hands
- Examples include:
 - Bed rails
 - Bedside tables
 - Patient furniture
 - Floors
 - Mops
 - Reusable cleaning cloths (Rutala, 2017)
- Clean and disinfect using a low to intermediate level disinfectant depending on the nature and degree of contamination (DHHS, 2017)





Training Environmental Services

EVS Staff Training Flow Chart





Step 1: Cleaning

- Cleaning – the removal of organic matter from a surface, usually accomplished by using a detergent
- Cleaning must occur before:
 - Sanitizing
 - Disinfecting
 - Sterilizing
- Cleaning removes organic matter and allows the disinfectant to work more effectively in reducing microorganisms





Step 2: Reducing/Removing Microorganisms

- Sanitizer – reduce pathogens to a safe level
 - ONLY Used in food preparation areas
 - Not Used in other areas of the healthcare setting
- Disinfectant – chemical used to kill microorganisms on environmental surfaces
- Sterilizer – used for critical medical equipment not housekeeping surfaces





Low-level Disinfectant

- Inactivates the following microorganisms:
 - Vegetative bacteria
 - Enveloped viruses
 - Some non-enveloped viruses
- Quaternary ammonium
 - Low-level disinfectant – used as a sanitizer in food preparation
 - Reactivity reduced by organic matter, water hardness, and anionic detergents
 - Some bacteria can grow in quaternary ammonium solutions (OU, 2009)
 - Binds to cotton fibers (Vaccaro, 2018)
- Some Phenolic
 - Among the earliest germicides, but recent safety concerns restrict use
 - Reactivity reduced by water hardness – use distilled or deionized water to dilute
 - Do Not use on food contact surfaces or with young children
- Some Iodophors (Iodine containing)
 - Similar to chlorine, but slightly less inhibited by organic matter
 - Stains fabrics and environmental surfaces (OU, 2009)



Intermediate-level Disinfectant

- Kills/Inactivates the following:
 - *Mycobacterium tuberculosis*
 - All fungi
 - Most viruses
- Some intermediate-levels do not kill bacterial spores – read label
- EPA-registered tuberculocidal claim
- Chlorine-containing compounds
 - Sodium hypochlorite (bleach) solution most widely used for hard surfaces and blood spills
 - Designated as the best defense against *C. diff*
- Oxidizing agent that destroys cell proteins (Accini, 2012)
- Reactivity is considerable reduced by organic matter (CDC, 2017)
- Alcohols
 - Does not kills spores
 - 70% concentrations are the most effective
 - Do not use near an open flame (OU, 2009)



High-level Disinfectant

- Used for heat-sensitive, semi-critical medical equipment, and inactivating some bacterial spores (CDC, 2017)
- Kills/inactivates the following:
 - Vegetative bacteria
 - *Mycobacterium tuberculosis*
 - Viruses
 - Fungi
 - Inactivates some bacterial spores (i.e. *C. difficile* spores)
- Aldehydes – Chemicals that kill all microorganisms/spores (OU, 2009)
- Hydrogen peroxide – 7.5% solutions approved by FDA for sterilization and high-level disinfection
- Peracetic acid – more powerful disinfectant than hydrogen peroxide (Accini, 2012)



Sterilization

- Used to kill ALL microorganisms, including high numbers of bacterial spores
- Kills the following:
 - Vegetative bacteria
 - *Mycobacterium tuberculosis*
 - Viruses
 - Fungi
 - Bacterial spores (i.e. *C. difficile* spores)
- Steam— moist heat in the form of saturated steam under pressure
 - Nontoxic
 - Rapid cycle time that is easy to control and monitor
- Hydrogen Peroxide Gas Plasma
 - Leaves no toxic residuals
 - Used for heat- and moisture-sensitive items
- 100% Ethylene Oxide (ETO)/ ETO Mixtures
 - Compatible with most medical materials
 - Penetrates packing materials
- Peracetic Acid
 - Rapid cycle time
 - Low temperature liquid immersion (Rutala, 2017)



Best Practices



1. Clean the surface using a detergent and water
2. Spray or wipe the surface ensuring the surface is wet for the required contact time (aka dwell time)

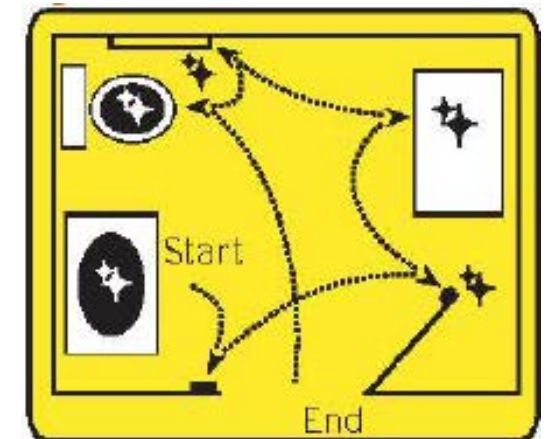
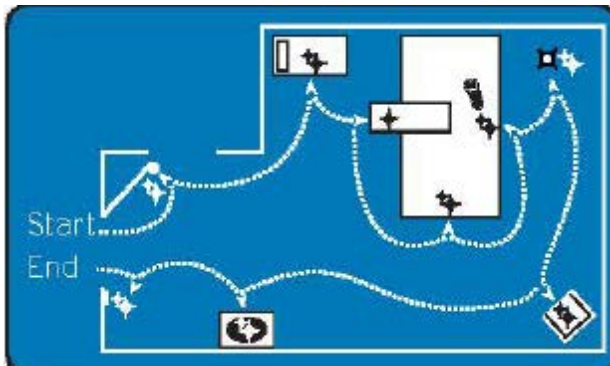
Notes:

- Do not allow the disinfectant to dry before the contact time is over.
- If the surface dries before the contact time is over, then reapply the disinfectant
- Check the label of the disinfectant to determine contact time and kill claim
- Use microfiber cloths – microfiber cloths are less likely to bind with the disinfectant (Wilson, 2014)

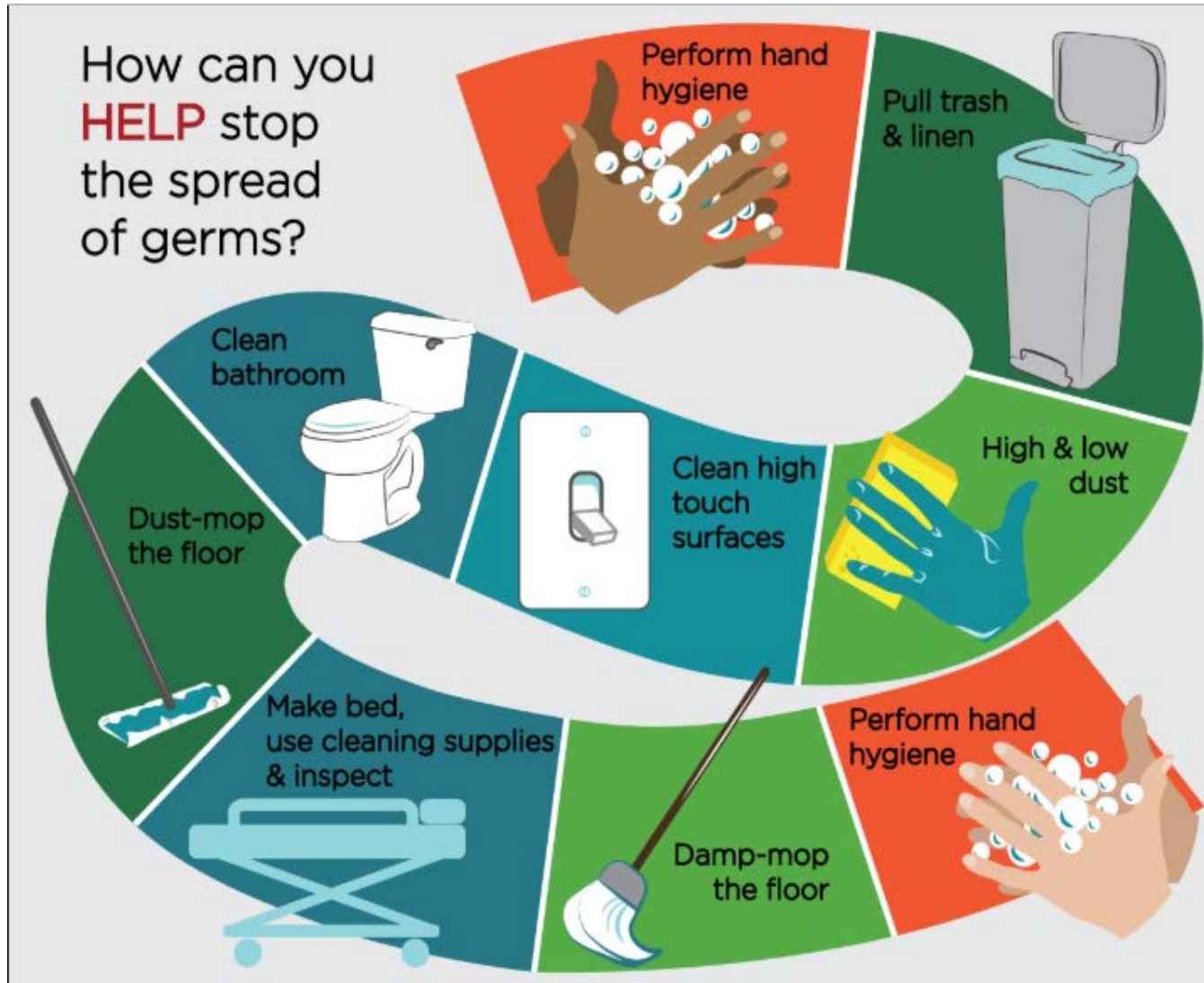


Best Practices in Patient Rooms

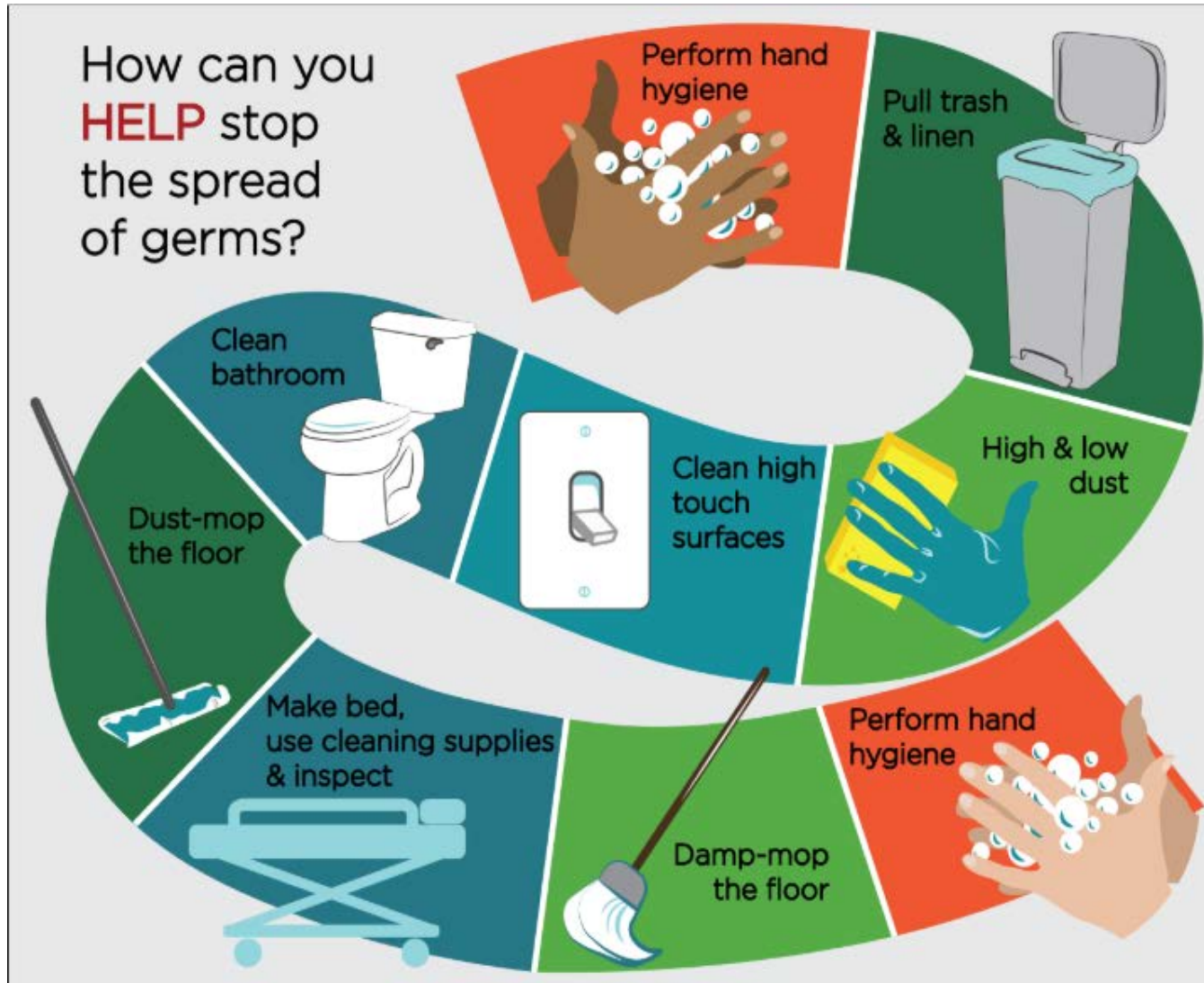
- Move from the outside of the room to the inside
- Always start from “clean area” and wipe to “dirty area”
 - “Clean area”- an area free of sources of infection
 - “Dirty Area”- an area with high possibility of becoming a source of infection (Yoshikura, 2000)
- Clean/disinfect **high touch** surfaces (CDC, 2018)
 - Door knobs
 - Light switches
 - Sinks
 - Toilet
 - Bed rail
 - Call button
 - Telephone
 - Bedside table
 - Chair
 - Tray
 - IV Pole



Room Cleaning Process



Restroom Cleaning Process





Audit, Competency Validation, and Monitoring

Tools

Evaluating Cleanliness



Direct observation

- Manager, peer review, nurse, obs

UV Markers

- Mark room at time of patient discharge but before cleaning
- Return with UV Light

ATP system - check system swabs after room is cleaned



Direct Observation

EVS supervisor spot checks randomly after cleaning

- time consuming
- not all rooms can be checked

Checklists are helpful

Variety of cleaning is useful

- after daily
- after Isolation



UV Marker System



After the patient is discharged, but before the room is cleaned place UV marks on high touch areas

- vary areas (some pick ~10)

EVS cleans rooms

Return with Black Light to check for UV Mark removal

- great visual teaching
- timing is problematic



UV Marker Process

Mark high-touch areas

Alternate the areas in order for EVS workers to not “memorize” placement

Either mark a % of rooms or XX per day/shift



FORMAL ROUNDS ENVIRONMEN

Date:	Attendees:			
Area:	WRITE IN RATING DESIGNATIO			
ROOMS:	RM #	RM #	RM #	RM
Patient room light switch				
Patient room door knob				
TV remote				
Telephone				
Over bed table				
Bed rails				
Bed headboard				
Bed footboard				
Window sills				
Furniture chair arms				
Furniture chair seat				
Soap dispensers				
Bathroom door knob				
Bathroom light switch				
Toilet paper dispensers				
Paper towel dispensers				
Faucet handles				



MARYLAND
Department of Health

ATP Testing



- 1 Swab areas after cleaning
- 2 Swab the surface of area you want to test
- 3 Insert swab into meter
- 4 Measures presence of organic material on the ATP swab - on small surface areas
- 5 Get reading



MARYLAND
Department of Health

Competency Validation – Page 1

Long-Term Care Facilities Environmental Cleaning

MARYLAND Department of Health

Environmental Cleaning Competency Validation Form

☐ Orientation ☐ Annual

Employee Name:	Job Title:
Employee ID:	Date:
Employee is competent in environmental cleaning procedures (Complete all areas of form)	<input type="checkbox"/> Yes <input type="checkbox"/> No If no, employee must repeat training/education and competency validation before starting/returning to work.

General Cleaning and Disinfection Procedures	Competent	
	YES	NO
Clean/disinfect areas using microfiber cloth charged		
Clean/disinfect areas using charged microfiber cloth		
Change and charge laundered microfiber cloth when dirty – no double dipping		
Change and charge laundered microfiber cloth for restrooms		
Ensure surfaces remain wet for the entire contact time		
Discard all dry and dirty microfiber cloths in bucket for laundry at the end of the day or end of shift		
Only use facility-approved detergents		
Only use facility-approved, EPA registered disinfectants		
Remove PPE and perform hand hygiene on every exit and re-entry into a room		

Before Entering the Room	Competent	
	YES	NO
Review patient precaution status – See Isolation cleaning procedures		
Review procedure checklist		
Perform hand hygiene		
Don appropriate PPE		
Place wet floor sign in front of door		



Occupied Patient Room	Competent	
	YES	NO
Check sharps container – change if necessary (change if more than ³ / ₄ full)		
Empty, clean, and disinfect trash container – handle plastic bags from the top		
Remove any visible dirt from patient area and floor		
Clean patient bed with a charged microfiber cloth (see procedure checklist)		
Using a laundered charged microfiber cloth – Move from clean to dirty and clean/disinfect all equipment except the restroom (see procedure checklist)		
Using a laundered charged microfiber cloth – Move from clean to dirty and clean/disinfect patient restroom except the toilet area (see procedure checklist)		
Use a laundered charged microfiber cloth clean/disinfect the toilet area (see procedure checklist)		
Restock room and restroom supplies (see procedure checklist)		
Exit room and remove wet floor sign when floor has dried		

Competency Validation – Page 2

Long-Term Care Facilities

Environmental Cleaning



Discharged Patient Room	Competent	
	YES	NO
Remove linen from bed one piece at a time and place in linen hamper		
Discard open tissue boxes and used toilet paper rolls		
Empty, clean, and disinfect trash container – handle plastic bags from the top		
Check sharps container – change if necessary (change if more than $\frac{3}{4}$ full)		
Using a charged microfiber cloth clean/disinfect portable equipment (see procedure checklist)		
Remove portable equipment from room (don and doff appropriate PPE appropriately before exiting and re-entering the room)		
Remove any visible dirt from the patient area and floor		
Dry dust (see procedure checklist)		
Clean patient bed with a charged microfiber cloth (see procedure checklist)		
Using a laundered charged microfiber cloth – Move from clean to dirty and clean/disinfect all equipment except the restroom (see procedure checklist)		
Using a laundered charged microfiber cloth – Move from clean to dirty and clean/disinfect patient restroom except the toilet area (see procedure checklist)		
Use a laundered charged microfiber cloth clean/disinfect the toilet area (see procedure checklist)		
Restock room and restroom supplies (see procedure checklist)		
Exit room and remove wet floor sign when floor has dried		
Change room status to “ready”		

Isolation Cleaning Procedures	Competent	
	YES	NO
Contact Precautions		
Perform hand hygiene		
Don gloves and isolation gown correctly		
Nursing staff disinfect and remove equipment from patient room prior to cleaning by environmental services		
Enhance (Enteric) Contact Precautions		
Perform hand hygiene (with soap and water if <i>C. difficile</i> or norovirus)		
Don gloves and isolation gown correctly		
Nursing staff disinfect and remove equipment from patient room prior to cleaning by environmental services		
Bleach or other EPA-registered disinfectant with <i>C. difficile</i> /norovirus claim		
Discard toilet brush after use		
Droplet Precautions		
Perform hand hygiene		
Don gloves and surgical mask correctly		
Airborne Precautions		
Perform hand hygiene		
Don gloves, isolation gown, N95/PAPR		
Check with nursing before room entry		

Audit– Page 1

Long-term Care Facilities

Environmental Cleaning



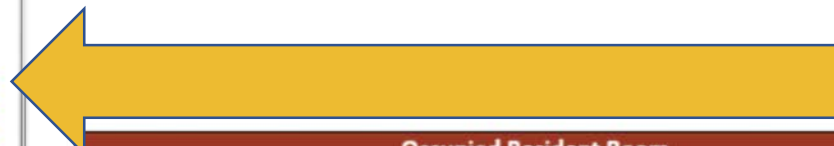
Environmental Cleaning Audit Form

Complete all sections that apply to audited employee

Unit:	Floor:
Employee Type:	Date:
Auditor Name:	Auditor Title:

General Cleaning and Disinfection Procedures	Completed	
	YES	NO
Clean/disinfect areas using charged microfiber cloth		
Change and charge laundered microfiber cloth when dirty – no double dipping		
Change and charge laundered microfiber cloth for restrooms		
Ensure surfaces remain wet for the entire contact time		
Discard all dry and dirty microfiber cloths in bucket for laundry at the end of the day or end of shift		
Only use facility-approved detergents		
Only use facility-approved, EPA registered disinfectants		
Remove PPE and perform hand hygiene on every exit and re-entry into a room		

Before Entering the Resident Room	Completed	
	YES	NO
Review patient precaution status – See Isolation cleaning procedures		
Review procedure checklist		
Perform hand hygiene		
Don appropriate PPE		
Place wet floor sign in front of door		



Occupied Resident Room	Completed	
	YES	NO
Check sharps container – change if necessary (change if more than $\frac{3}{4}$ full)		
Empty, clean, and disinfect trash container – handle plastic bags from the top		
Remove any visible dirt from patient area and floor		
Clean patient bed with a charged microfiber cloth (see procedure checklist)		
Using a laundered charged microfiber cloth – Move from clean to dirty and clean/disinfect all equipment except the restroom (see procedure checklist)		
Using a laundered charged microfiber cloth – Move from clean to dirty and clean/disinfect patient restroom except the toilet area (see procedure checklist)		
Use a laundered charged microfiber cloth clean/disinfect the toilet area (see procedure checklist)		
Restock room and restroom supplies (see procedure checklist)		
Exit room and remove wet floor sign when floor has dried		



Audit– Page 2

Long-term Care Facilities

Environmental Cleaning



Discharged Resident Room	Completed	
	YES	NO
Remove linen from bed one piece at a time and place in linen hamper		
Discard open tissue boxes and used toilet paper rolls		
Empty, clean, and disinfect trash container – handle plastic bags from the top		
Check sharps container – change if necessary (change if more than $\frac{3}{4}$ full)		
Using a charged microfiber cloth clean/disinfect portable equipment (see procedure checklist)		
Remove portable equipment from room (don and doff appropriate PPE appropriately before exiting and re-entering the room)		
Remove any visible dirt from the patient area and floor		
Dry dust (see procedure checklist)		
Clean patient bed with a charged microfiber cloth (see procedure checklist)		
Using a laundered charged microfiber cloth – Move from clean to dirty and clean/disinfect all equipment except the restroom (see procedure checklist)		
Using a laundered charged microfiber cloth – Move from clean to dirty and clean/disinfect patient restroom except the toilet area (see procedure checklist)		
Use a laundered charged microfiber cloth clean/disinfect the toilet area (see procedure checklist)		
Restock room and restroom supplies (see procedure checklist)		
Exit room and remove wet floor sign when floor has dried		
Change room status to “ready”		

Isolation Cleaning Procedures	Completed	
	YES	NO
Contact Precautions		
Perform hand hygiene		
Don gloves and isolation gown correctly		
Nursing staff disinfect and remove equipment from patient room prior to cleaning by environmental services		
Enhance (Enteric) Contact Precautions		
Perform hand hygiene (with soap and water if <i>C. difficile</i> or norovirus)		
Don gloves and isolation gown correctly		
Nursing staff disinfect and remove equipment from patient room prior to cleaning by environmental services		
Bleach or other EPA-registered disinfectant with <i>C. difficile</i> or norovirus claim		
Discard toilet brush after use		
Droplet Precautions		
Perform hand hygiene		
Don gloves and surgical mask correctly		
Airborne Precautions		
Perform hand hygiene		
Don gloves, isolation gown, N95/PAPR		
Check with nursing before room entry		

Monitoring – Page 1

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

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion





Questions



References

- Accini, S. (2012). *Top ten disinfectants to control HAIs*. Retrieved from <https://www.hospitalmanagement.net/features/featureppc-disinfectants-hai-globaldata/>
- Baylor Scott & White Health (BSWH). (2017). *What is infection vs. colonization?* Retrieved from <http://www.sw.org/medicine/infectious-disease/faq/infection-colonization>
- Centers for Disease Control and Prevention (CDC). (2018). *Candida auris*. Retrieved from <https://www.cdc.gov/fungal/candida-auris/index.html>
- Centers for Disease Control and Prevention (CDC). (2018). *Fungal diseases*. Retrieved from <https://www.cdc.gov/fungal/index.html>
- Centers for Disease Control and Prevention (CDC). (2018). *Healthcare-associated infections*. Retrieved from <https://www.cdc.gov/hai/index.html>
- Centers for Disease Control and Prevention (CDC). (2012). *Frequently asked questions about Clostridium difficile for healthcare providers*. Retrieved from https://www.cdc.gov/hai/organisms/cdiff/cdiff_faqs_hcp.html
- Centers for Medicare and Medicaid (CMS). (2018). *Nursing homes*. Retrieved from <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Nursing-Homes.html>

References

- L. Marks, personal communication [email]. October 31, 2018.
- Oakland University (OU). (2009). *Disinfectants final Aug 2009*. Retrieved from <https://www.oakland.edu/Assets/upload/docs/LabSafety/disinfectantsFinaLAug2009.pdf>
- Rutala, W., Weber, D., and the Healthcare Infection Control Practices Advisory Committee (HICPAC). (2017). *Guidelines for disinfection and sterilization in healthcare facilities, 2008*. Retrieved from <https://www.cdc.gov/infectioncontrol/pdf/guidelines/disinfection-guidelines.pdf>
- Thompson, K. (2012). *Understanding the physiology of healthcare pathogens for environmental disinfection*. Retrieved from <https://www.infectioncontrolday.com/environmental-hygiene/understanding-physiology-healthcare-pathogens-environmental-disinfection>
- United States Department of Health and Human Services Centers for Disease Control and Prevention (CDC). (2017). *Guidelines for environmental infection control in health-care facilities (2003)*. Retrieved from <https://www.cdc.gov/infectioncontrol/pdf/guidelines/environmental-guidelines.pdf>
- United States Environmental Protection Agency (EPA). (2018). *List K: EPA's registered antimicrobial products effective against Clostridium difficile spores*. Retrieved from https://www.epa.gov/sites/production/files/2018-01/documents/2018.10.01.listk_.pdf

References

- United States Environmental Protection Agency (EPA). (2016). *CSF and label amendment – Add alternate CSF 1 and revised label*. Retrieved from https://www3.epa.gov/pesticides/chem_search/ppls/004959-00015-20160405.pdf
- United States Environmental Protection Agency (EPA). (2015). *Label and CSF amendment – Correction of mathematical*. Retrieved from https://www3.epa.gov/pesticides/chem_search/ppls/090856-00004-20150922.pdf
- United States Environmental Protection Agency (EPA). (2013). *ProSpray™ wipes*. Retrieved from https://www3.epa.gov/pesticides/chem_search/ppls/046851-00010-20131106.pdf
- Vaccaro, M. (2018). *Sanitization for food safety: Using sanitizer test strips* [PowerPoint Slides]. Retrieved from <https://www.pastertraining.com>
- Wilson, M. (2014). *Proper use of disinfectants*. Retrieved from <https://ohsonline.com/Articles/2014/08/01/Proper-Use-of-Disinfectants.aspx>
- Yoshikura, H., (2000). Workflow from clean to dirty, HACCP and inclusiveness principles in effective implementation of hospital infection control. *Japanese Journal of Infectious Disease*, 53. Retrieved from <https://www0.niid.go.jp/JJID/LEC-60.pdf>