



# ENVIRONMENTAL SERVICES PRACTICE TIPS

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## ROLE OF THE PHYSICAL ENVIRONMENT



- ▶ The physical environment plays a role in the spread of infection
- ▶ Environmental Services' (EVS) role is to reduce the spread of infection in the physical environment by properly and thoroughly cleaning and *disinfecting* the physical environment

## ENVIRONMENTAL SERVICE PROGRAM COMPONENTS

- ▶ Some one designated to oversee
- ▶ Be a member of the infection prevention committee
  - ▶ Standing or ad hoc member
  - ▶ Report on a routine basis
- ▶ Standardized protocols/procedures for cleaning and disinfection
  - ▶ Identify the person responsible
  - ▶ Frequency
  - ▶ Method (product, process)
  - ▶ Detailed in policy/procedures
- ▶ Processes in place for monitoring, and feedback of findings



## ENVIRONMENTAL CLEANING AND DISINFECTION

- ▶ Require routine and targeted cleaning of environmental surfaces as indicated by the level of patient contact and degree of soiling
  - ▶ Proximity to the patient and frequently touched surfaces
  - ▶ Spills of blood and OPIM
- ▶ Select EPA-registered disinfectants that have microbiocidal activity against the pathogens most likely to contaminate the patient-care environment
- ▶ Follow manufacturers' instructions for proper use of cleaning and disinfection products

Refer to: 1) "CDC Guidelines for Environmental Infection Control in Health-Care Facilities" and 2) "CDC Guideline for Disinfection and Sterilization in Healthcare Facilities"

## GENERAL ENVIRONMENTAL CLEANING TECHNIQUES

### ► Visual preliminary site assessment:

- Recognize that patient status could pose a challenge to safe cleaning
- Identify the need for additional PPE
- Identify the presence of clutter or obstacles that could pose a challenge to safe cleaning
- Identify the presence of broken or non-intact surfaces that may need to be reported to supervisor

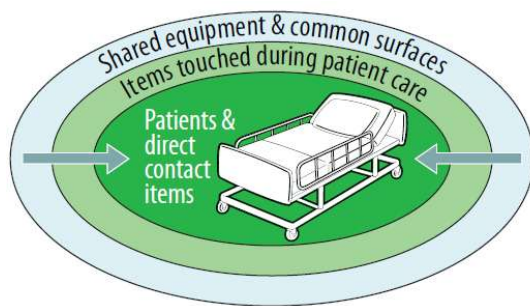


[https://cdc.gov/healthcare-associated-infections/hcp/cleaning-global/procedures.html?CDC\\_AAref\\_Val=https://cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html](https://cdc.gov/healthcare-associated-infections/hcp/cleaning-global/procedures.html?CDC_AAref_Val=https://cdc.gov/hai/prevent/resource-limited/cleaning-procedures.html)

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## GENERAL ENVIRONMENTAL CLEANING TECHNIQUES



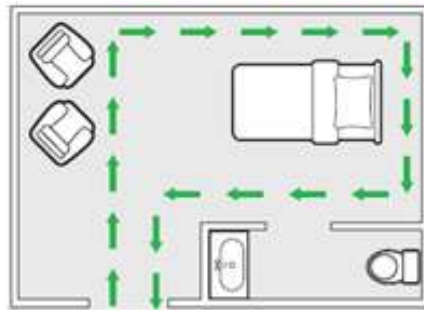
- ▶ Clean to Dirtier to avoid spreading dirt and microorganisms:
  - ▶ Start with shared equipment and common surfaces
  - ▶ Surfaces touched during patient care (outside of patient zone)
  - ▶ Surfaces and items directly touched by the patient
  - ▶ Clean general patient care areas before cleaning areas under transmission-base precautions
- ▶ Proceed from High to Low (Top to Bottom)- prevent dirt and microorganisms from dripping or falling and contaminating clear areas:
  - ▶ Bed rails before bed legs
  - ▶ Environmental surfaces before floors (clean last).

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## GENERAL ENVIRONMENTAL CLEANING TECHNIQUES

- ▶ Methodical, Systematic Manner to avoid missing areas-left to right or clockwise



**Figure 10.** Example of a cleaning strategy for environmental surfaces, moving in a systematic manner around the patient care area

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## GENERAL ENVIRONMENTAL CLEANING TECHNIQUES

### ▶ Best practices for environmental cleaning of surfaces:

- ▶ Fresh cleaning cloths at the start of each cleaning session
- ▶ Change when no longer saturated or have dried out
- ▶ Change between each patient zone (ICU for example)



- Never double-dip cleaning cloths into portable containers (e.g., bottles, small buckets) used for storing environmental cleaning products (or solutions).
- Never shake mop heads and cleaning cloths—it disperses dust or droplets that could contain microorganisms.
- Never leave soiled mop heads and cleaning cloths soaking in buckets.

## EVALUATION OF HOSPITAL FLOORS AS A POTENTIAL SOURCE OF PATHOGEN DISSEMINATION

- ▶ Effective disinfection of contaminated surfaces is essential to prevent transmission of epidemiologically-important pathogens
- ▶ Found that a nonpathogenic virus inoculated onto floors in hospital rooms disseminated rapidly to the footwear and hands of patients and to high-touch surfaces in the room
- ▶ The virus was also frequently found on high-touch surfaces in adjacent rooms and nursing stations
- ▶ Contamination in adjacent rooms and in nursing station(s) suggest HCP contributed to dissemination after acquiring the virus during contact with surfaces or patients
- ▶ Studies needed to determine if floors are source of transmission



Koganti et al. ICHE 2016. 37:1374; Deshpande et al. AJIC 2017. 45:336.

## EVALUATION OF HOSPITAL FLOORS AS A POTENTIAL SOURCE OF PATHOGEN DISSEMINATION

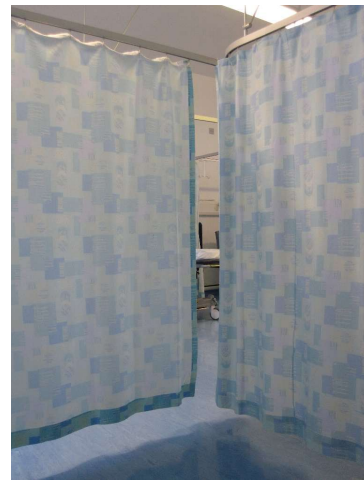
- ▶ Floors are a **potential** source of transmission because often contacted by objects that are then touched by hands (e.g., shoes, socks)
- ▶ Non-slip socks contaminated with MRSA, VRE



Mahida, J Hosp Infect. 2016;94:273

## PRIVACY CURTAINS

- Cleaned when visible soiled
- After use in contact isolation room
- On some routine basis
- Improved Hydrogen Peroxide (IHP)  
1.4% reduced microbial load by  
96.8 %



## IDEAL PRODUCTS

### GENERAL IDEAL PROPERTIES

- ▶ General ideal properties
- ▶ Nontoxic
- ▶ Easy to use
- ▶ Acceptable Odor
- ▶ Solubility
- ▶ Economical/Low cost

### FOR DISINFECTANTS

- ▶ Broad spectrum
- ▶ Rapid action
- ▶ Remains wet
- ▶ Not affected by environmental factors
- ▶ **Material compatibility**
- ▶ Persistence
- ▶ Cleaner
- ▶ Nonflammable
- ▶ Stability

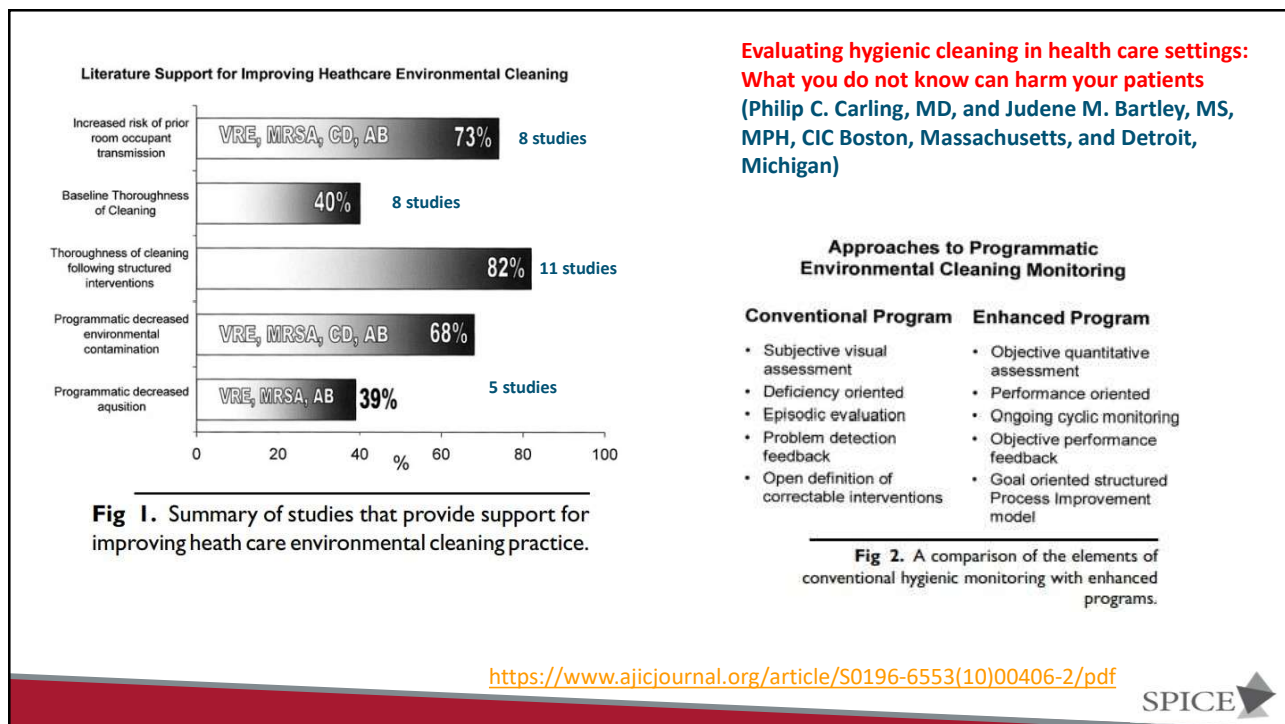
<https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants>

## ENHANCED DISINFECTION TECHNOLOGY

- ▶ A patient admitted to a room previously occupied by a patient colonized or infected with one of the key healthcare associated pathogens (e.g., MRSA, VRE, *C difficile*, *Acinetobacter* spp.) has a higher risk for acquiring one of these pathogens than a patient admitted to a room whose previous occupant was not colonized or infected.

[https://www.ajicjournal.org/issue/S0196-6553\(16\)X0012-0](https://www.ajicjournal.org/issue/S0196-6553(16)X0012-0)





## MONITORING THE THOROUGHNESS: CLEANING-DISINFECTION

- ▶ Visual inspection
- ▶ Microbiologic methods
- ▶ Adenosine-triphosphate (ATP) assays
- ▶ Fluorescent markers



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## MONITORING THE THOROUGHNESS: CLEANING-DISINFECTION

- ▶ **Direct Practice Observation:**
  - ▶ Monitoring individual ES staff performance and compliance with cleaning protocols
- ▶ **Visual Inspection:**
  - ▶ **Patients primarily use this approach**-presence of dust, or organic debris on surfaces
  - ▶ Not a reliable indicator of microbial contamination
- ▶ **Microbiologic Methods:**
  - ▶ Costly and pathogen specific
  - ▶ No accepted criteria for defining a surface as clean using microbiologic methods.



[https://www.ajicjournal.org/article/S0196-6553\(15\)01125-6/fulltext](https://www.ajicjournal.org/article/S0196-6553(15)01125-6/fulltext)

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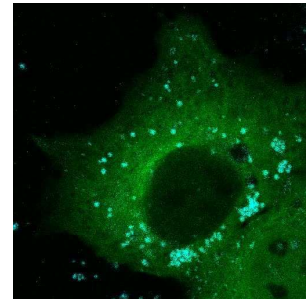
## MONITORING THE THOROUGHNESS: CLEANING-DISINFECTION

### ▶ Adenosine-triphosphate (ATP) assays

- ▶ ATP systems measure organic debris as well as viable bacterial counts
- ▶ Read out scales vary between systems
- ▶ ? Impact of bleach disinfectants on the use of ATP

### ▶ Fluorescent markers

- ▶ Use of a fluorescent gel to mark surfaces prior to room cleaning
- ▶ Fluoresces when exposed to an ultraviolet light.
- ▶ Thoroughness of the cleaning is monitored
- ▶ Immediate feedback



## FEEDBACK/TRAINING/MONITORING

- ▶ Regular feedback and training is essential to the success of the Environmental Services colleague.
- ▶ Monitor individual routinely (weekly/monthly)
- ▶ Training annually on job-specific topics
- ▶ Feedback of data to other stake holders (IPCC for example)-Use of a Heat Map
  - ▶ More frequently as trends emerge with Quality checks





