ENVIRONMENTAL CLEANING, DISINFECTION, AND MONITORING

Karen Trimberger RN, MPH, CIC
Infection Prevention Consultant
Hektoen Institute/IDPH

And COVID-19 Information
WEBINAR OBJECTIVES

• INCREASE KNOWLEDGE OF HOW THE ENVIRONMENT IMPACTS RESIDENT SAFETY

• RECOGNIZE THAT ENVIRONMENTAL CLEANING AND DISINFECTION IS MULTIFACETED AND IS NOT A STAND ALONE INTERVENTION

• INCORPORATE INFORMATION LEARNED TODAY TO DEVELOP OR EXPAND YOUR OWN ENVIRONMENTAL SERVICE’S PROGRAM

• UNDERSTAND VARIOUS ENVIRONMENTAL MONITORING METHODS
REGULATORY REQUIREMENTS

“Resident has a right to a safe, clean, comfortable, homelike environment, and a right to receive treatment safely. “
Source: CMS Mega Rule, p. 63

“The choice of decontamination method depends on the risk of infection to the resident coming into contact with equipment or medical devices.”
ENVIRONMENTAL CONTAMINATION

- Environmental surfaces are frequently contaminated by microorganisms.

- Contamination plays a role in the transmission of healthcare-associated infections (HAIs) in healthcare settings.

- Environmental cleaning is a fundamental intervention for infection prevention and control (IPC).

While many of the most-touched parts of a patient's room receive extra cleaning attention, many remain highly contaminated. The deadly combination of high-touch and high-contamination is believed to lead to cross-contamination, which can in turn lead to infections. On this chart, you can see where these two categories overlap: The most contaminated and the most touched.

Parts of a typical hospital room that are:

- **Most touched**
  - Frequency of touch

- **Most MRSA-contaminated**
  - Degree of contamination

- **Most C. diff-contaminated**
  - Degree of contamination


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Current evidence suggests that novel coronavirus may remain viable for hours to days on surfaces made from a variety of materials.
Transfer of Environmental Contaminants

The transfer of microorganisms from environmental surfaces to patients is largely via hand contact with the surface.

Cleaning and disinfection of environmental surfaces is fundamental in preventing healthcare-associated infections.
The number and types of microorganisms present on environmental surfaces are influenced by the following factors:

a. number of people in the environment,
b. amount of activity,
c. amount of moisture,
d. presence of material capable of supporting microbial growth,
e. rate at which organisms suspended in the air are removed, and
f. type of surface and orientation [i.e., horizontal or vertical].
ENVIRONMENTAL SERVICES PROGRAM

MUST BE IMPLEMENTED WITHIN THE FRAMEWORK OF THE FACILITY INFECTION PREVENTION & CONTROL PROGRAM.

ENVIRONMENTAL CLEANING & DISINFECTION SHOULD NOT BE A STAND ALONE INTERVENTION.
ENVIRONMENTAL SERVICES PROGRAM
MULTIFACETED INTERVENTION

• Leadership Support
• Training
• Monitoring
• Feedback
Figure 2. Chapter outlines and overall framework for the best practices

Chapter 2: Cleaning Programs
- Organizational Elements
- Staffing and Training
- Infrastructure and supplies
- Policies and procedures
- Monitoring, feedback and audit

Chapter 3: Supplies and equipment
- Products for environmental cleaning
- Supplies and equipment for environmental cleaning
- Personal protective equipment for environmental cleaning
- Care and storage of supplies, equipment, and personal protective equipment

Chapter 4: Procedures
- General environmental cleaning techniques
- General patient areas
- Patient area toilets
- Patient care area floors
- Spills of blood or body fluids
- Specialized patient areas
- Noncritical patient care equipment
- Methods for assessment of cleaning and cleanliness

ORGANIZATIONAL ELEMENTS

AN ENVIRONMENTAL SERVICES PROGRAM MUST INCLUDE:

• ADMINISTRATIVE AND LEADERSHIP SUPPORT

• FORMALIZED COMMUNICATION PROCESSES AND INTEGRATION OF THE CLEANING PROGRAM AND IPC

• DEFINED MANAGEMENT STRUCTURE
Environmental Services Staff should:

- be familiar with their job descriptions and performance standards

- be asked to perform duties only for which they were trained (e.g., cleaning staff should not be asked to clean areas unless they have received specific training for that patient care area)

- know the identities and hazards of the chemicals that they could be exposed to in the workplace

- have supplies and equipment, including PPE, to perform their duties
TRAINING

• SHOULD INCLUDE ORIENTATION

• SHOULD BE ONGOING ESPECIALLY IF NEW PRODUCT OR EQUIPMENT

• SHOULD BE DONE ANNUALLY OR MORE OFTEN IF NEEDED

• USE OF ORIENTATION CHECKLIST AS EVIDENCE OF COMPETENCY

• MAINTAIN DOCUMENTATION OF ALL TRAINING
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PRODUCT SELECTION

Things to consider when choosing a disinfectant:

• What organisms does the product kill or control?

• Are the products EPA registered?

• What is the contact time of the product?

• What personal protective equipment is required?

• Is the product ready to use or does it require dilution?
Dr. Rutala and Weber’s Considerations for Selecting the Optimal Disinfectant for Your Facility

Directions: When determining the optimal disinfecting product for surface disinfection in your facility, consider each of the 5 components below and give each product a score (1 is worst and 10 is best) in each of the 5 categories.

Select the product with the highest score as the optimal product choice

<table>
<thead>
<tr>
<th>Consideration</th>
<th>Questions to Ask</th>
<th>Score (1-10) Maximum Score is 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kill Claims</td>
<td>Does the product kill the most prevalent healthcare pathogens, including those that: • Cause most HAIs? • Cause most outbreaks? • Are of concern in your facility?</td>
<td></td>
</tr>
<tr>
<td>2. Kill and wet-contact times</td>
<td>How quickly does the product kill the prevalent healthcare pathogens? Does the product keep surfaces visibly wet for the kill times listed on its label?</td>
<td></td>
</tr>
<tr>
<td>3. Safety</td>
<td>Does the product have an acceptable toxicity rating? Does the product have an acceptable flammability rating? Is a minimum level of personal protective equipment required? Is the product compatible with the common surfaces in your facility?</td>
<td></td>
</tr>
<tr>
<td>4. Ease of use</td>
<td>Is the product odor considered acceptable? Does the product have an acceptable shelf life? Does the product come in convenient forms to meet your facility’s needs (eg, liquids, sprays, refills, multiple wipe sizes)? Does the product work in the presence of organic matter? Is the product water soluble? Does the product clean and disinfect in a single step? Are the directions for use simple and clear?</td>
<td></td>
</tr>
<tr>
<td>5. Other factors</td>
<td>Does the supplier offer comprehensive training and ongoing education, both in person and virtual? Does the supplier offer 24-7 customer support? Is the overall cost of the product acceptable (considering product capabilities, costs of infections that may be prevented, and costs per compliant use)? Can the product help standardize disinfectants used in your facility?</td>
<td></td>
</tr>
</tbody>
</table>
SUPPLIES AND EQUIPMENT

- Standardized containers (for measuring solutions) and easy to use job aids (e.g., visual posters) should be used for preparation of solutions.

- Sufficient amount of cleaning cloths or microfiber cloths

If feasible, it is highly recommended to:
- Prepare solutions with an automatic dispensing system that is calibrated regularly. Manual dilution and mixing are more subject to error.
STORAGE CONTAINERS

All containers used for storing solutions of environmental cleaning products should:

• be clean, clearly labeled, and have an expiration date based on the manufacturer’s instructions for stability

• be thoroughly cleaned and dried before refilling

• never be topped up—use them until the indicated expiration date (after which it should be disposed) or until the container is empty, whichever comes first
PERSONAL PROTECTIVE EQUIPMENT

Appropriate PPE for the cleaning staff for all environmental cleaning procedures should always be available and used appropriately to reduce risk to both patients and staff.

PPE is required to prevent:

• exposure to microorganisms

• exposure to cleaning chemicals (e.g., disinfectants)

• reduce the spread of microorganisms from one patient care area to another within the facility (when used correctly)
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POLICIES AND PROCEDURES

Facilities should have policies and procedures for:

- General environmental cleaning “how to clean” techniques
- Patient care rooms
- Patient bathrooms
- Common areas (lobby, dining room, lounge area)
- Spills of blood or body fluids
- Noncritical patient care equipment
- Methods for assessment of cleaning and cleanliness
STANDARD OPERATING PROCEDURES (SOP)

CLEAN TOP TO BOTTOM
Facility Environmental Cleaning Policies should always include the following elements:

• defined lines of accountability and responsibilities for all staff
  “WHO CLEANS WHAT?”

• cleaning schedules for every patient care area and noncritical patient care equipment, specifying the frequency, method, and staff(s) responsible
  “HOW OFTEN?”

• required cleaning procedures for environmentally hardy organisms and for outbreak management
  “ARE WE USING THE CORRECT PRODUCT?”
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MONITORING, FEEDBACK AND AUDITS

- Structured monitoring programs ensure that environmental cleaning is conducted according to best practices.
- There must be organizational support and resources available to address deficiencies identified during monitoring activities.
- Use a standardized methodology for monitoring, apply it on a routine basis, and provide timely feedback to cleaning staff and program leadership.
FEEDBACK

Feedback needs to be

• Prompt

• Direct

• Shared or reported
METHODS FOR AUDITS

Methods for assessing cleaning practice include:

• direct performance observations

• visual assessment

• fluorescent markers

Methods for assessing the level of cleanliness include:

• measuring the residual bioburden (i.e., ATP)

• taking a bacteriological culture of the surface itself using a swab or contact agar plate method
METHOD OF ASSESSING CLEANING PRACTICES

- Fluorescent marking method—Environmental Marking with Tide Free & Gentle

- Each room is marked using separate plastic bag with individual applicators saturated with Tide Free and Gentle
EXAMPLE: WIPED AND MISSED
ROOM MAP EXAMPLE #1

Missed: 11
Marked Areas: 45
Missed Percentage: 24%

Wiped: 34
Marked Areas: 45
Wiped Percentage: 76%

Missed
Wiped

11 Missed
45 Marked Areas
24% Missed

34 Wiped
45 Marked Areas
76% Wiped
CLEANING AND DISINFECTION COVID-19
COVID-19

• THERE IS MUCH TO LEARN ABOUT THE NOVEL CORONAVIRUS THAT CAUSES CORONAVIRUS DISEASE 2019 (COVID-19).

• BASED ON WHAT IS CURRENTLY KNOWN ABOUT THE NOVEL CORONAVIRUS AND SIMILAR CORONAVIRUSES THAT CAUSE SARS AND MERS, SPREAD FROM PERSON-TO-PERSON WITH THESE VIRUSES HAPPENS MOST FREQUENTLY AMONG CLOSE CONTACTS (WITHIN ABOUT 6 FEET). THIS TYPE OF TRANSMISSION OCCURS VIA RESPIRATORY DROPLETS.

• TRANSMISSION OF NOVEL CORONAVIRUS TO PERSONS FROM SURFACES CONTAMINATED WITH THE VIRUS HAS NOT BEEN DOCUMENTED.

• CURRENT EVIDENCE SUGGESTS THAT NOVEL CORONAVIRUS MAY REMAIN VIABLE FOR HOURS TO DAYS ON SURFACES MADE FROM A VARIETY OF MATERIALS.

• CLEANING OF VISIBLE DIRTY SURFACES FOLLOWED BY DISINFECTION IS A BEST PRACTICE

COVID-19

- Consider designating specific, well-trained environmental services personnel for cleaning and disinfecting of patient rooms/units.

- Fully define the scope of cleaning that will be done each day.

- Identify who will be responsible for cleaning and disinfecting the surfaces of patient-care equipment (e.g., IV pumps, ventilators). Consider using a checklist to promote accountability for cleaning responsibilities.

- Environmental services personnel should wear PPE.

- Keep cleaning supplies outside the patient room.

- Keep areas around the patient free of unnecessary supplies and equipment to facilitate daily cleaning.
COVID-19

• USE ANY EPA-REGISTERED HOSPITAL DETERGENT-DISINFECTANT. FOLLOW MANUFACTURER’S RECOMMENDATIONS FOR USE-DILUTION (I.E., CONCENTRATION), CONTACT TIME, AND CARE IN HANDLING.

• CLEAN AND DISINFECT PATIENTS’ ROOMS AT LEAST DAILY AND MORE OFTEN WHEN VISIBLE SOILING/CONTAMINATION OCCURS.

• AFTER AN AEROSOL-GENERATING PROCEDURE (E.G., INTUBATION), CLEAN AND DISINFECT HORIZONTAL SURFACES AROUND THE PATIENT. CLEAN AND DISINFECT AS SOON AS POSSIBLE AFTER THE PROCEDURE.
COVID-19

• FOLLOW STANDARD FACILITY PROCEDURES FOR TERMINAL CLEANING OF AN ISOLATION ROOM.

• CLEAN AND DISINFECT ALL SURFACES THAT WERE IN CONTACT WITH THE PATIENT OR MAY HAVE BECOME CONTAMINATED DURING PATIENT CARE.

• WIPE DOWN MATTRESSES AND HEADBOARDS WITH AN EPA-APPROVED HOSPITAL DISINFECTANT.

• PRIVACY CURTAINS SHOULD BE REMOVED, PLACED IN A BAG IN THE ROOM AND THEN TRANSPORTED TO BE LAUNDERED.

• NO SPECIAL TREATMENT IS NECESSARY FOR WINDOW CURTAINS, CEILINGS, AND WALLS UNLESS THERE IS EVIDENCE OF VISIBLE SOIL.

• DO NOT SPRAY (I.E., FOG) OCCUPIED OR UNOCCUPIED ROOMS WITH DISINFECTANT. THIS IS A POTENTIALLY DANGEROUS PRACTICE THAT HAS NO PROVEN DISEASE CONTROL BENEFIT.
COVID-19
DISINFECTANTS

• LIST N: DISINFECTANTS FOR USE AGAINST SARS-COV-2

• THE EPA-REGISTERED SURFACE DISINFECTANT PRODUCTS ON THIS LIST HAVE QUALIFIED FOR USE AGAINST SARS-COV-2, A CORONAVIRUS THAT CAUSES COVID-19.

• CORONAVIRUSES ARE ENVELOPPED VIRUSES, MEANING THEY ARE ONE OF THE EASIEST TYPES OF VIRUSES TO KILL WITH THE APPROPRIATE DISINFECTANT PRODUCT.

• EPA STRONGLY RECOMMENDS FOLLOWING THE PRODUCT LABEL USE DIRECTIONS FOR ENVELOPPED VIRUSES, AS INDICATED BY THE APPROVED EMERGING VIRAL PATHOGEN CLAIM ON THE MASTER LABEL.

HTTPS://WWW.EPA.GOV/SITES/PRODUCTION/FILES/2020-03/DOCUMENTS/SARS-COV-2-LIST_03-03-2020.PDF
LIST N PRODUCTS

- HOW TO USE THE LIST
- LOCATE THE EPA REGISTRATION NUMBER ON THE DISINFECTANT
- LOOK FOR THAT NUMBER ON LIST N: DISINFECTANTS FOR USE AGAINST SARS-COV-2
- CLICK ON A PRODUCT’S REGISTRATION NUMBER
- LOOK FOR THE EMERGING VIRAL PATHOGENS CLAIMS SECTION ON THE MASTER LABEL
- LOOK FOR THE ENVELOPED VIRUS INFORMATION IN THE CHART TO FIND WHICH ORGANISM’S DIRECTIONS FOR USE YOU SHOULD FOLLOW
- GO TO THE PRODUCT LABEL AND FOLLOW THE DIRECTIONS FOR USE AGAINST THE LISTED ORGANISM
- IF THERE ARE MULTIPLE ORGANISMS LISTED, USE THE LONGEST CONTACT TIME, AND IF APPLICABLE, THE HIGHEST CONCENTRATION
- NOTE: THERE MAY BE ADDITIONAL DISINFECTANTS THAT MEET THE CRITERIA FOR USE AGAINST SARS-COV-2. EPA WILL UPDATE THIS LIST WITH ADDITIONAL PRODUCTS AS NEEDED.
Pesticide Registration

List N: Disinfectants for Use Against SARS-CoV-2

List N includes products that meet EPA’s criteria for use against SARS-CoV-2, the cause of COVID-19.

When purchasing a product, check if its EPA registration number is included on this list. If it is, you have a match and the product can be used against SARS-CoV-2. You can find this number on the product label – just look for the EPA Reg. No. These products may be marketed and sold under different brand names, but if they have the same EPA registration number, they are the same product.

This list includes products with emerging viral pathogen claims and those with human coronavirus claims. If a product with an emerging viral pathogen claim is not available, use a product with a coronavirus claim. If the product is listed as “N” under the Emerging Viral Pathogen Claim column, then it has a human coronavirus claim.

- Frequently Asked Questions about List N: Disinfectants for Use Against SARS-CoV-2
- Emerging Viral Pathogen Claims for SARS-CoV-2: Submission Information for Registrants

Note: Inclusion on this list does not constitute an endorsement by EPA. There may be additional disinfectants that meet the criteria for use against SARS-CoV-2. EPA will update this list with additional products as needed.
ENVIRONMENTAL CLEANING AND DISINFECTION

• MAKE SURE THAT EPA-REGISTERED, HOSPITAL-GRADE DISINFECTANTS ARE AVAILABLE

• REFER TO LIST N

• ENSURE ENVIRONMENTAL CLEANING AND DISINFECTION PROCEDURES ARE FOLLOWED CONSISTENTLY AND CORRECTLY
IDEAL DISINFECTANT

• Nontoxic and non-irritating

• Low toxicity rating

• Not damage surfaces

• Easy to use

• Acceptable odor

• Economical

• One step cleaner/disinfectant
CLEANING AND DISINFECTION

- EXPAND USE TO INCLUDE ENTIRE INTERDISCIPLINARY TEAM---IT’S EVERYONE’S JOB!!

- FREQUENTLY CLEAN AND DISINFECT TOUCHED AREAS
QUESTIONS
CONTACT INFORMATION

KAREN TRIMBERGER RN, MPH, CIC
INFECTION PREVENTION CONSULTANT
HEKTOEN INSTITUTE/IDPH

KAREN.TRIMBERGER@ILLINOIS.GOV
217-341-8379