# HAI-Lights Newsletter

An infection prevention and control resource

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**HAI-Lights Refresher:** What do you recall about Antimicrobial Resistance? Test your knowledge!
**Question: What does the percentage on an antibiogram mean?**

a) Percent of infectious germs that were **susceptible** to the antimicrobial agent
b) Percent of infectious germs that were **resistant** to the antimicrobial agent
c) Percent of incidents when the antimicrobial agent used for an infectious germ
*Answer on page five (5)!

## In This Issue:



# Environmental Infection Control

Germs or pathogens contributing to healthcare-associated infections (HAIs) live and thrive around surfaces, sinks, drains, and patient care items.[i] In healthcare, the water, surfaces, and air with which a patient interacts is called “environment of care.” Ensuring a clean and disinfected environment of care is crucial for safe, effective healthcare.[ii]

Environmental infection control is a complex topic, and upcoming newsletter issues will expand on concepts introduced in this edition.

# Cleaning and Disinfection – General Processes

**Spaulding Classification**

| Patient Contact | Examples | Device Classification | Minimum Inactivation Level |
|---|---|---|---|
| Intact skin |  | Non-Critical | Low Level or Intermediate Level Disinfection |
| Mucous membranes or non-intact skin |  | Semi-Critical | High Level Disinfection |
| Sterile areas of the body, including blood contact |  | Critical | Sterilization |

Figure 1. A summary of the Spaulding Classification system. McDonell, 2013[iii]

The first step to cleaning and disinfection is determining which type of disinfection or sterilization needs to occur. Patient care equipment, like endoscopes and blood pressure cuffs, and surfaces, like bed rails, need various levels of disinfection. The Spaulding Classification system is an approach to disinfection and sterilization that looks at an instrument's intended use to determine the level of cleaning/disinfection required. The degree of infection risk determines whether items are categorized as: (1) critical; (2) semi-critical; and (3) non-critical.[ii]

**Methods of Cleaning and Disinfecting**

Low level disinfection is used for non-critical patient care items and surfaces in the patient care environment. Semi-critical and critical items need high level disinfection and sterilization, respectively.

1. A surface must first be cleaned before it can be disinfected. Cleaning is the removal of foreign material (e.g., soil, organic material) from objects using water with detergents or enzymatic products. A visibly soiled surface, like one with blood or dirt, must be cleaned before a disinfectant will work. Some products are both cleaning and disinfecting, but not all. It is important to review instructions for a product before using it.[iv]

2. After cleaning a surface or piece of equipment, it can be disinfected. The Environmental Protection Agency (EPA) maintains lists of "Antimicrobial Products Registered with EPA for Claims Against Common Pathogens." The EPA has reviewed data to support that these products are effective against specific pathogens. Products with claims for multiple pathogens may appear on more than one list. Refer to the Selected EPA-Registered Disinfectants web page for all instructions on searching for products and accessing all lists.[v] The agency lists products by EPA registration number, ingredient, product name, and company.

List P: Antimicrobial Products Registered with EPA for Claims Against Candida Auris

| Registration | Active Ingredient | Product Brand Name | Company | Contact Time (minutes) | Formulation Type | Surface Types | Use sites |
|---|---|---|---|---|---|---|---|
| 1234-12 | Hydrogen Peroxide and Paracetic Acid | Disinfectant | Company | 2 | Dilutable | Hard Non-Porous (HN) | Hospital; Institutional; Residential |

Figure 2. Example of a product on EPA List P. US EPA, 2015[v]

Choosing a disinfectant depends on factors like intended use, cost, availability, specific germ(s) targeted, and contact time. Consider these factors to ensure effective product use. For example, if a product is purchased for use by nursing staff on a glucometer used for an entire unit, but only has a 10-minute contact time, it will likely be not possible to use that product appropriately during care. A product with a 10-minute contact time could, however, be used appropriately for a terminal (discharge) room clean.

**What is contact time?**

Contact time is commonly known as “wet time,” “dwell time,” “kill time, or “action time.” It is the amount of time a product must remain wet, undisturbed, or wiped away to be effective against germs.

Contact times are listed on the product label and the EPA list associated with the targeted pathogen. The same product may have different contact times for different pathogens. All staff using a specific product should be aware of the manufacturer’s instructions for use, including contact time.


# Cleaning and Disinfection – Special Cleaning Strategies

## Flowers and Plants

Flowers and plants are common gifts for individuals receiving inpatient care. These items can carry pathogens and pests on their leaves, in the soil, and in the water. In areas such as intensive care units or transplant units with immunocompromised patients, live flowers or plants should be restricted. In other patient care areas, additional precautions should be followed, including:

- Staff with no direct patient contact should care for plants or flowers
- Wearing gloves when handling
- Washing hands after handling
- Changing vase water every two days and discarding water outside of patient area
- Cleaning and disinfecting vases after use

## Carpets

Carpet in patient care areas should be avoided to maintain a clean patient environment. Carpeted floors can be challenging to clean spills and pose an increased risk for growth of germs on the surface.

## Special Pathogen HAI-Light

Some pathogens, like Antibiotic-Resistant Gram-Positive *Cocci,* Creutzfeldt-Jakob Disease, and *Clostridium difficile (C. diff; see below)*, need special considerations for cleaning and disinfecting.

***Clostridium difficile:***

*C. diff* is an organism that causes infections. A main symptom of *C. diff* infection is diarrhea, and it is spread through feces. The spread can happen from person to person through contaminated hands, or contaminated items and high touch surfaces. Handwashing and using gloves reduce the risk of contamination.

For environmental infection control of *C. diff*, it is important to use products from the EPA's "List K," which targets *C. diff* spores. Using the correct disinfectant, combined with hand hygiene and transmission-based precautions, helps prevent the spread of *C. diff* in healthcare facilities.

**Note:** *Clostridium difficile* (*C. diff*) was reclassified as *Clostridioides difficile* in 2016. However, it is still commonly referred to as *Clostridium difficile,* as it is in the 2019 Update of the CDC Guidelines for Environmental Infection Control in Health-Care Facilities.

# CDC Project Firstline

When healthcare workers practice infection control consistently – every person, every action, and every day – lives are saved. The Healthcare Safety Unit (HSU) joins Project Firstline in Texas, a Centers for Disease Control and Prevention (CDC)-led infection control training collaborative for frontline U.S. healthcare workers. Stay updated on Project Firstline by accessing new trainings, tools, and news. For more information, visit cdc.gov/projectfirstline.

**Addressing Health Disparities in Environmental Infection Controls**

The Association for the Healthcare Environment (AHE) has partnered with CDC Project Firstline to create accessible resources for environmental services workers on proper cleaning and disinfection practices in healthcare settings. The materials are available in both English and Spanish, aiming to address healthcare disparities among diverse populations. Together with Project Firstline, AHE's educational videos and materials are designed to foster comprehension for all healthcare and healthcare environment workers.

# Healthcare Safety Unit (HSU) at DSHS

- The HSU at DSHS was established to promote safe and quality healthcare through awareness, education, transparency, monitoring, and response, helping to improve the well-being of all Texans.
- The HSU comprises of three groups: HAI Investigations Group, Data and Training Group, and Antimicrobial Resistance/Antimicrobial Stewardship Group.
- Learn more about the HSU by visiting: dshs.texas.gov/healthcare-safety-unit.

# U.S. Antibiotic Awareness Week


This past November, we recognized U.S. Antibiotic Awareness Week (USAAW), an annual observance that invites organizations to raise awareness of the international threat of Antimicrobial Resistance and the importance of Antimicrobial Stewardship (note: antibiotic is commonly referred to as antimicrobial).

The CDC advises healthcare professionals to prescribe antibiotics only when necessary to combat Antimicrobial Resistance and prevent superbug spread, and to educate patients about the importance of safe antibiotic prescribing and use, promoting Be Antibiotics Aware during USAAW and throughout the year. To learn more, please visit the CDC's USAAW webpage or email the DSHS Antimicrobial Stewardship Team at antibioticstewardship@dshs.texas.gov.

# Additional Resources

## Subscribe to the HAI-Lights Newsletter and provide your feedback to help us improve.

- cdc.gov/infectioncontrol/index.html
- apic.org/
- shea-online.org/
- tsicp.org/
- CDC Guidelines for Environmental Infection Control in Health-Care Facilities

**HAI-Lights Refresher answer:**

a) The antibiogram table lists infectious germs and their corresponding **susceptibility** to antimicrobial agents. An agent's susceptibility refers to the probability that a germ will be eliminated by a certain antimicrobial drug. Susceptibility data is verified by in-house microbiology labs and included within an antibiogram.

# References


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iv. CDC (2019). *Cleaning.* Centers for Disease Control and Prevention. cdc.gov/infectioncontrol/guidelines/disinfection/cleaning.html
v. US EPA, OCSPP (2015). *Selected EPA-registered disinfectants.* US EPA. epa.gov/pesticide-registration/selected-epa-registered-disinfectants