

Module 2: Understanding Disinfectants

Infection Prevention and Control Training for Environmental Services Staff

- Review the difference between cleaning and disinfection
- **Examine types of disinfectants**

- **Objectives**
- Demonstrate how to select a disinfectant
- Identify key components of reading a disinfectant label
- Discuss on the importance of proper disinfectant dilution

You Can Make a Difference!

- Improper cleaning and disinfection of environmental surfaces allow germs to spread and lead to infections
- The Environmental Services (EVS) team can be the first line of defense against germs!







Cleaning Versus Disinfection, Continued

Cleaning

Scrubbing surfaces with water and detergent to physically removing dust, dirt, and body fluids

Disinfection

Killing germs on surfaces with chemicals

Disinfectants can't work if cleaning doesn't happen first. Always remember to clean before disinfecting.







Detergents

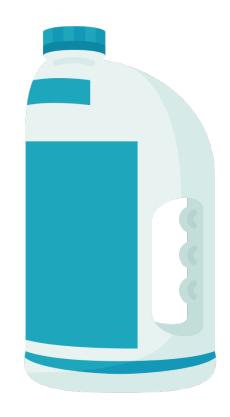
- Use a detergent (Note: soap is a detergent)
- Detergent is mixed with water to lift the dirt off surface
- Removes but does not kill germs
- Germs can live in cleaning solution, change often
- Less toxic, less odor, and cheaper than disinfectants





Disinfection and Disinfectants

- Chemicals that kill germs (e.g., quats, bleach, hydrogen peroxide)
- Used on hard, non-porous surfaces such as bedrails and bedside tables
- A one-step detergent-disinfectant product cleans and disinfects at the same time







Disinfectant Type	Properties
Quaternary Ammonium Products (Quats)	 Widely-used Generally, doesn't kill spores Can cause health problems; ensure proper personal protective equipment (PPE) use
Chlorine-based (Bleach)	 Kills a wide range of germs including spores Fast-acting Can cause health problems; ensure proper PPE use Can damage metals and fabrics
Hydrogen peroxide, accelerated H ₂ O ₂ (Oxides)	 Kills a wide range of germs including spores Can be shorter contact/wet time

Do <u>not</u> mix quats and bleach, as this can form a toxic gas.





Is the Disinfectant Appropriate for the Task?

- Always check if the disinfectant you are using is appropriate for the task. Ask your EVS manager if unsure.
- Environmental Protection Agency (EPA)-registered, and labeled as "hospital-grade disinfectant"
- Kill claims: Type of germs the disinfectant kills
- Contact/wet time: Time required for the disinfectant to work
- Safety: Know the toxicity, PPE requirements, and appropriate use of disinfectant







Contact/Wet Time

- Contact/wet time is the amount of time required for a disinfectant to kill germs on a pre-cleaned surface
- A surface must remain wet long enough to achieve surface disinfection
 - You may have to re-apply to achieve the contact/wet time
- Follow label instructions for the appropriate contact/wet time







Knowledge Check

In order for a disinfectant to be effective, what must occur? Select all that apply.

- A. Surface must be cleaned
- B. Surface must remain wet for the disinfectant contact/wet time
- C. EVS staff must know and use the disinfectant contact/wet time
- D. All the above



Knowledge Check

Answer

In order for a disinfectant to be effective, what must occur? Select all that apply.

Answer is bolded and marked with an asterisk (*).

- A. Surface must be cleaned
- B. Surface must remain wet for the disinfectant contact/wet time
- C. EVS staff must know and use the disinfectant contact/wet time
- D. All the above*

Answer: D



How to Read a Disinfectant Label



How to Read a Disinfectant Label | CDC (PDF)



How to Read a Disinfectant Label – Active Ingredients

Active Ingredients

 What are the main disinfecting chemicals?

How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Directions for Use

Directions for Use

- Identify (e.g., bacteria, viruses, fungi) the germs it kills
- Follow directions for use (e.g., how to mix product, how to disinfect)
- Use recommended amount for the correct duration (contact/wet time)

How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Directions for Use, Continued

Directions for Use

- Identify (e.g., bacteria, viruses, fungi) the germs it kills
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How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Directions for Use, Cont.

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How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Precautionary Statements

Precautionary Statements

- Confirm required PPE
- Review precautions

How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Precautionary Statements, Continued

Precautionary Statements

- Confirm required PPE
- Review precautions

How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Storage and Disposal

Storage and Disposal

Identify storage and disposal recommendations

How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Expiration Date

Check Expiration Date

- Manufacturer's expiration date
- Open date/discard date
- Mix date/discard date

How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Manufacturers Expiration Date

Check Expiration Date

- Manufacturer's expiration date
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- Mix date/discard date

How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Open/Discard Date

Check Expiration Date

- Manufacturer's expiration date
- Open date/discard date
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How to Read a Disinfectant Label | CDC (PDF)







How to Read a Disinfectant Label – Mix/Discard Date

Check Expiration Date

- Manufacturer's expiration date
- Open date/discard date
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How to Read a Disinfectant Label | CDC (PDF)







Dilute Disinfectant Per Label Instructions

- Always use disinfectant in correct dilution
- Never mix different disinfectants together
- Automated dispenser: Automatically dispenses disinfectant mixed with water
- Manual dispenser: Requires careful measuring to manually mix concentrated disinfectant with water







Preparing Environmental Cleaning Products: Manual Preparation

- Prepare solutions in a designated area (i.e., housekeeping/EVS closet)
- Follow label instructions
- Use accurate measuring tools (i.e., use a measuring cup). Never eyeball or guesstimate the measurement of disinfectant solution to water.
- Use PPE to prevent splashes or sprays





Best Practices For Disinfectant Use

- Follow label instructions
- Use the appropriate disinfectant for the surface

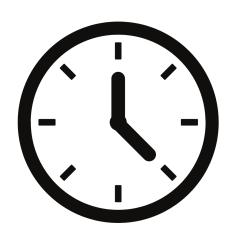




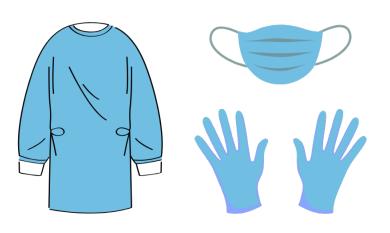


Best Practices For Disinfectant Use

- Follow contact/wet time
- Ensure the disinfectant dilution is accurate
- Ensure the right PPE for the job











Practices to Avoid For Disinfectant Use

- Don't mix or dilute unless specified on the label
- Don't "top off" or add new solution to the containers
- Don't mix different disinfectants





Summary

- Only clean surfaces can be disinfected
- Disinfectant choice depends on the surface being cleaned
- Follow the label instructions for use including contact/wet time
- Don't mix different disinfectants





- Cleaning, Disinfection and Reprocessing Reusable Equipment | CDPH (PDF)
 (www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/SNF_Online IPCourse_Gs_Cleaning%20Disinfection%20Reprocessing_012521_ADA.pdf)
- Cleaning and Disinfection Strategies for Non-Critical Surfaces and Equipment | CDC (PDF) (www.cdc.gov/infection-control/media/pdfs/Strive-EC102-508.pdf)
- EPA's Registered Antimicrobial Products Effective Against Clostridium difficile Spores
 (C. diff) [List K] | EPA
 - (www.epa.gov/pesticide-registration/list-k-antimicrobial-products-registered-epa-claims-against-clostridium)





- Training: EVS and the Battle Against Infection | CDC (www.cdc.gov/infection-control/hcp/training/training-evs-and-the-battle-against-infection.html)
- Infection Control Basics | CDC (www.cdc.gov/infection-control/about/index.html)
- Best Practices for Environmental Infection Prevention and Control | CDC (www.cdc.gov/dental-infection-control/hcp/dental-ipc-faqs/cleaning-disinfecting-environmental-surface.html)





- <u>Disinfection | CDC</u> (www.cdc.gov/infection-control/hcp/disinfection-sterilization/disinfection-methods.html)
- Recommendations for Disinfection and Sterilization in Healthcare Facilities | CDC (www.cdc.gov/infection-control/hcp/disinfection-sterilization/summary-recommendations.html)
- Considerations for Reducing Risk: Surfaces in Healthcare Facilities | CDC (www.cdc.gov/healthcare-associated-infections/hcp/infection-control/)
- Six Steps for Safe & Effective Disinfectant Use | EPA (PDF)
 (www.epa.gov/sites/default/files/2020-04/documents/disinfectants-onepager.pdf)





- Training: EVS and the Battle Against Infection | CDC (www.cdc.gov/infection-control/hcp/training/training-evs-and-the-battle-against-infection.html)
- Cleaning Supplies and Equipment | CDC (www.cdc.gov/healthcare-associated-infections/hcp/cleaning-global/supplies-and-equipment.html)
- Environmental Cleaning Procedures | CDC (www.cdc.gov/healthcare-associated-infections/hcp/cleaning-global/procedures.html)





Project Firstline Resources

- Visit the <u>Project Firstline Website</u> (www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/ProjectFirstline.aspx)
- Email the Project Firstline AskBox at ProjectFirstline@cdph.ca.gov

Project Firstline is a national collaborative led by the U.S. Centers for Disease Control and Prevention (CDC) to provide infection control training and education to frontline healthcare workers and public health personnel. The California Department of Public Health Healthcare-Associated Infections (HAI) Program is proud to partner with Project Firstline, as supported through Strengthening HAI/AR Program Capacity (SHARP) funding. CDC is an agency within the Department of Health and Human Services (HHS). The contents of this presentation do not necessarily represent the policies of CDC or HHS and should not be considered an endorsement by the Federal Government.





Activity Teaching Aids and Worksheets

Reading Disinfectant Labels







You have a new resident coming in. The nursing staff is putting pressure on EVS staff to clean the room faster and to have it ready soon. The contact/wet time for the product you use is 5 minutes, but nursing staff is asking you to 'speed it up'.

How do you proceed with cleaning and disinfecting? Select all that apply.

- A. Let it dry quickly
- B. Wait the 5 minutes and allow it to dry
- C. Wipe it off so it dries faster
- D. Ignore the nursing staff
- E. Other (Share your response)



Answer

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- D. Ignore the nursing staff
- E. Other (Share your response)*

Answer: B,E

*E may be a correct response depending on facility policy and procedure.



Case Scenario #1 Cont'd

How would you respond to the situation? What could you do if you're being pressured to clean a room faster than you are able to?

- A. Contact EVS supervisor, let them know what's going on
- B. Inform the nursing staff of the products contact/wet time to make the room/surface safe for the next resident
- C. Ask EVS supervisor for assistance (maybe they can get extra EVS staff to help)
- D. Open lines of communication between nursing staff and EVS to ensure each other's deadlines and limitations
- E. Involve facility's infection preventionist and let them know this is an (ongoing) situation
- F. All of the Above



Case Scenario #1 Cont'd

Answer

How would you respond to the situation? What could you do if you're being pressured to clean a room faster than you are able to?

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- A. Contact EVS supervisor, let them know what's going on
- B. Inform the nursing staff of the products contact/wet time to make the room/surface safe for the next resident
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- D. Open lines of communication between nursing staff and EVS to ensure each other's deadlines and limitations
- E. Involve facility's infection preventionist and let them know this is an (ongoing) situation
- F. All of the above*

Answer: F



A product has a 10-minute contact/wet time, but it dries in 5 minutes. What do you do? Select all that apply.

- A. Reapply the product to ensure it stays wet for the entire 10 minutes
- B. Add water to the surface so it stays wet longer
- C. Let the EVS manager know that you are having to rewet the surface to achieve the contact/wet time
- D. Use another product from home
- E. Nothing



Answer

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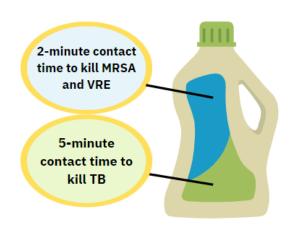
Answer: A,C



You are using a disinfectant product that has different contact/wet times. This disinfectant product has, a 2-minute contact time to kill MRSA & VRE and a 5-minute contact time to kill TB.

Which contact/wet time would you use?

- A. The shortest time
- B. The longest time
- C. The average time
- D. The expiry date
- E. At midnight





Answer

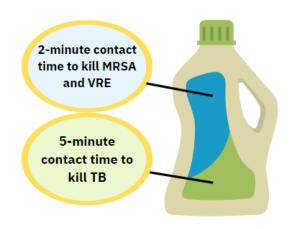
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- B. The longest time*
- C. The average time
- D. The expiry date
- E. At midnight

Answer: B





Picture This: What to Look for in an EVS Closet

 Identify six areas for improvement

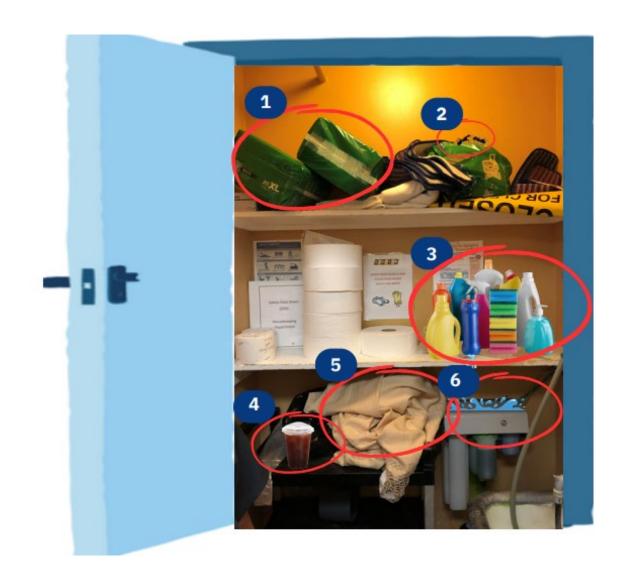






Picture This: What to Look for in an EVS Closet - Answer Key

 Identify six areas for improvement







Thank You!

Questions?

For more information, contact ProjectFirstline@cdph.ca.gov

