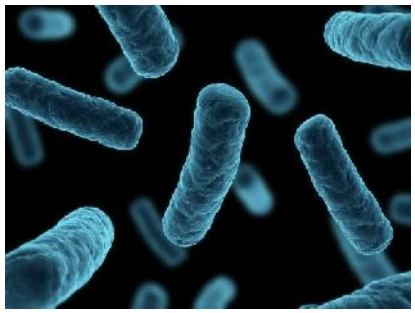
Infection Prevention and Control

How Preventive and Collaborative Measures Help Make Environments Safer, Healthier, More Profitable

Growing Challenge

A single bacterium can become a million in just eight hours and — in an era of MRSA and like-health concerns — disinfectant strategies are multiplying.



Prevention is Best

We will:

- **Make the case for better cleaning.**
- **Outline safer, healthier disinfection strategies.**
- **Encourage cooperation to reduce illness.**
- **Show how to reduce harsh disinfectants.**
- **Show how better hygiene is profitable.**

The Case for Better Cleaning

…**physical removal** of microorganisms and soil
by wiping or scrubbing
is probably **as important,**
if not more so,
than any antimicrobial effect …

—CDC

Safer, Healthier Disinfection

Disinfectant

"Used on hard inanimate surfaces and objects to destroy or irreversibly inactivate infectious fungi and bacteria but not necessarily spores."

—EPA

Safer, Healthier Disinfection

Goal

Remove, inactivate, destroy
target microbes to the **proper** degree.

Safer, Healthier Disinfection

Strategies

- ✓ Remove rather than poison
- ✓ Starve rather than feed
- ✓ Remove moisture
- ✓ Displace don't destroy
- ✓ Exceptions

Safer, Healthier Disinfection

Remove rather than poison

Cleaning is the removal of unwanted matter, including pathogens.

- ✓ Example – quality, dense microfiber.
- ✓ Example – spray and vac machines.
- ✓ Example – autoscrubbers.
- ✓ Example – steam vapor sanitation.

Safer, Healthier Disinfection

"Evaluate cleaning of surfaces by inspecting for removal of a pre-applied mark, visible only with an ultraviolet lamp ("black light"). Culture some surfaces for MRSA or VRE contamination."

—Robert Feldbauer, MHA, FACHE

Safer, Healthier Disinfection

Starve rather than feed

- ✓ Use ATP Measurement to help ensure cleaning for removal of bioload (germ food).
- ✓ Use non-chemical interventions such as low-moisture steam vapor to eliminate chemical residues while cleaning. Why? (audience)

Safer, Healthier Disinfection

Remove moisture

- ✓ Microbes need moisture to thrive.
- ✓ Dry surfaces are not conducive to bacterial or fungal growth.
- ✓ Dry surfaces also prevent slips and falls.

Safer, Healthier Disinfection

Displace don't destroy

✓ Microbes are everywhere – life requires it.

✓ Researchers in Spain found 700+ types of bacteria in breast milk.

(*The American Journal of Clinical Nutrition*)

✓ There are more foreign microbes on and inside us humans than there are cells of our bodies.

Remember

- ✓ Most microbes are harmless or beneficial (e.g., they break down waste), so wiping them out with disinfectant is often overkill and counterproductive.
- ✓ Maintaining a balanced ecosystem is important.
- ✓ Ideally, we want to manage microbes rather than poison or kill them.
- ✓ A growing field is bioaugmentation (cultivating friendly microbes to make them dominant, keeps the harmful ones under control).

(Ref: *Infection Prevention For Dummies*)

Safer, Healthier Disinfection

Exceptions

- ✓ *We need to control dangerous pathogens.*
- ✓ *Disinfection by killing of microbes will always be part of our toolbox to make environments healthier where sensitive populations exist.*

Cooperate to Reduce Illness

Talk with each other

- ✓ For example: EVS and IC
- ✓ Jointly Observe Staff Practices
- ✓ Jointly Discuss Quality Measures
- ✓ Together —Review/Document Environmental Cleanliness
- ✓ Together — Review and Evaluate Products, Procedures

Cooperate to Reduce Illness

According to consultant

Robert Feldbauer, MHA, FACHE:

- ✓ Connect dots between processes, departments, staff.
- ✓ Proactively prevent problems from occurring.
- ✓ Detect and correct errors and problems.
- ✓ Document processes, effectiveness, conformance.
- ✓ Comply with healthcare quality certifications.
- ✓ Comply with accreditation standards and regulatory requirements.

Cooperate to Reduce Illness

- ✓ **Wash Hands**
- ✓ Clean High Touch Surfaces Regularly
- ✓ Use a Black-Light-Marker Targeting to Ensure Key Surfaces Get Cleaned
- ✓ Provide Feedback to Personnel for Reinforcement and Improvement
- ✓ Retrain as Needed.

Reduce Harsh Disinfectants

Examples of More Benign, Effective Methods

- ✓ Steam Vapor
- ✓ Electrolyzed Water (acidic stream — hypochlorous)
- ✓ Hydrogen peroxide-based Products
- ✓ Silver Ions
- ✓ Ultraviolet Light (UV-C)
- ✓ Thymol, derived from the Herb Thyme.

(Ref: *Infection Prevention For Dummies*)

Better Hygiene is Profitable—ISSA

Terms to Know

✓ **Water Hardness**

Disinfectants often don't work well in hard water. Some do, so a label might read "effective in 400 parts per million (PPM) hard water."

✓ **Active Ingredients**

This may indicate disinfectant strength. The more PPM of active ingredients after the product is properly diluted ("in-use dilution") often the more effective it is.

Terms to Know

✓ **Dwell Time**

Disinfectants work best — and meet claims — when they set wet for several minutes before wiping or rinsing.

✓ **Organic Load**

Disinfectants are deactivated by organic soils — blood, protein, food and body waste — and may require two applications.

1. The first removes most organic soil.
2. The second application disinfects.

Resources

- ✓ CDC

www.cdc.gov/hicpac/disinfection_sterilization/6_0disinfection.html

- ✓ IEHA

Infection Prevention For Dummies

www.ieha.org/infection-prevention-for-dummies.php

- ✓ *EPA*

www.epa.gov/oppad001/chemregindex.htm

- ✓ The Joint Commission

www.jointcommission.org

Resources

- ✓ Joint Commission Resources
www.jcrinc.com
- ✓ Occupational Safety and Health Administration
www.osha.gov
- ✓ Association for Professionals in Infection Control\
www.apic.org
- ✓ Association of periOperative Registered Nurses
www.aorn.org
- ✓ Society for Healthcare Epidemiology of America (SHEA) www.shea-online.org

Questions