Cleaning for Infection Prevention

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Value of Clean: Infection Prevention

- Cleaning: Often Viewed as a Cost
- True Value of Cleaning
- Investment
  - Asset Preservation
  - Improved Indoor Environmental Quality
  - Increased Productivity of Workers, Students
  - Decreased Absenteeism
- Focus Today: Cleaning for Infection Prevention
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- Value of Cleaning for Infection Prevention
- Consider the Following Costs
- Influenza
  - U.S. Total Economic Burden: $87 B/yr
  - Lost Earnings, Productivity: $16.3 B
  - Direct Medical Costs: $10.4 B
  - 3.1 Million Hospitalized Days
  - 31.4 Million Outpatient Visits

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- Influenza Worldwide
  - 3 – 5 Million Cases per Year
  - 250,000 – 500,000 Deaths per Year
- Increased Cdiff Rate of HAI
  - 12% of HAIs
  - Rate of Cdiff HAIs has Nearly Doubled
  - Cost per Infection: $6-9 K
  - Total Cost per Year (US): $1 – 1.6 B
- Medicare: Will Not Reimburse for HAIs
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- MRSA, VRE, Ebola, Enterovirus D68
- Cost of Infectious Diseases Substantial
- Value of Clean
- Front Line of Defense in Infection Prevention
- Numerous Studies in Healthcare Settings
- Establish Cleaning as Effective in Breaking Infection Connection
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- Langone Medical Center Study
  - Enhanced Cleaning Practices
  - Averted 85 Cases C.diff HAIs
  - Est. Savings of $413,000 in Direct Hospital Costs
- Mt. Sinai Medical Center Study
  - Improved Cleaning Products, Training, Practices
  - 57% Reduction in C.diff Infection Rates
  - 50% Reduction in Worker Injuries
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- Hospitals Bring Janitors to Front Lines of Infection Control
  - Scientific American Aug. 15, 2012
  - “Infection risks have forced us to raise the cleanliness of the hospital as a clinical issue.”
  - NYU Langone: 50% Reduction in C.diff HAIs

- Principles of Cleaning for Infection Prevention
  - Institutional Facilities Generally
  - Office Buildings, Schools, Daycare, Retirement Centers
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- Principles of Cleaning for Infection Prevention
- Infectious Diseases are Transmitted Via
  - Harmful Microorganisms (bacteria, viruses, fungi, etc.)
  - Direct Person to Person Contact
  - Indirect Contact (high touch surfaces)
- Cleaning = Our Front Line Defense v. Infection
- Effective Cleaning and Disinfection
  - Decreases the Number of Environmental Pathogens
  - Reduces the Risk of Transmission and Infection
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- Guidelines for Cleaning and Disinfecting Environmental Surfaces
  - Ebola
  - Enterovirus D68
  - Influenza
- Hand Hygiene
- ISSA Resources
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- “Never Let a Good Crisis Go to Waste…”
What is Ebola? Ebola hemorrhagic fever is a severe, often fatal disease caused by Ebola virus.

How is it Spread? The Ebola virus is spread through contact with blood or other body fluids (urine, saliva, sweat, feces, vomit, semen) and objects (syringes) that have been contaminated with the virus.
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- CDC: Interim Guidance for Environmental Control in Hospitals for Ebola Virus
  - As part of the care of hospitalized patients with known or suspected Ebola Hemorrhagic Fever…
CDC Interim Guidance for Environmental Control in Hospitals for Ebola Virus

- **Disinfectants:** Use an EPA hospital disinfectant with label claim for non-enveloped virus (e.g., norovirus, rotavirus, adenovirus, poliovirus) to disinfect environmental surfaces.

- **Hospital Disinfectant:** Effective against:
  - Pseudomonas aeruginosa
  - Staphylococcus aureus
CDC Interim Guidance for Environmental Control in Hospitals for Ebola Virus

- **Disinfectants:**
  - The Label is the Law…
- **Daily Cleaning and Disinfection**
  - High Touch Surfaces (bed rail, bed table)
- **CDC Guidance on PPE for Healthcare Workers (10/20/14)**
  - Physicians or Nurses Perform Regular Cleaning and Disinfection of Patient Care Surfaces
  - Minimize Persons Exposed
CDC Interim Guidance for Environmental Control in Hospitals for Ebola Virus

- Hand Hygiene for Healthcare Workers
- Frequently
- Before and After All:
  - Patient Contact
  - Contact with Potentially Infectious Material
  - Before Putting on and Upon Removal of PPE, including Gloves
- Use Soap and Water, or Alcohol Based Hand Sanitizer

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™
CDC Interim Guidance for Environmental Control in Hospitals for Ebola Virus

- Disposal of Material Contaminated with Ebola
- Ebola = Category A Infectious Substance
- Must be Packaged and Transported Consistent with DOT Hazardous Materials Regulations
OSHA: Cleaning & Decontamination of Ebola on Surfaces

- For Workers in Non-Healthcare, Non-Laboratory Settings
  - For workers tasked with cleaning areas that may be contaminated with Ebola
  - Protection from Ebola, and Chemicals
- Immediately Clean and Disinfect any Visible Surface Contamination from Body Fluids that May Contain Ebola
OSHA: Cleaning & Decontamination of Ebola on Surfaces

- Isolate Areas of Suspected Ebola Contamination Until Decontamination Complete
  - Minimize Exposure to Others
- Cover Spills with Absorbent Material
  - Saturate the Area with Suitable Disinfectant
  - Allow to Soak into Spill for 30 Minutes before Cleaning up Bulk Material
  - After Clean up, Clean and Decontaminate Surface with Suitable Disinfectant
OSHA: Cleaning & Decontamination of Ebola on Surfaces

- **Suitable Disinfectant:** Use an EPA registered disinfectant suitable for non-enveloped viruses (adenovirus, norovirus, poliovirus).
  - Follow Label Directions
- Use Tools Like Tongs to Avoid Handling Waste
- Avoid Use of Pressurized Air or Water Sprays
  - May Cause Aerolization of Ebola Virus
OSHA: Cleaning & Decontamination of Ebola on Surfaces

- **Appropriate PPE:**
  - Nitrile Gloves (consider double gloves)
  - Fluid-Resistant or Fluid Impermeable Gowns
  - Goggles or Face Shields
  - Facemasks that Cover Mouth and Nose

- **Extra PPE—Consider the Following:**
  - Protective Sleeve, Leg, and Shoe Coverings
  - Fluid Resistant / Impermeable Coveralls
  - Respirators
OSHA: Cleaning & Decontamination of Ebola on Surfaces

- Appropriate PPE (continued):
  - After Cleaning and Disinfection, Remove PPE as Follows:
    - Gloves, Face Shield/Goggles, Gown, Mask/Respirator
    - Wash Hands with Soap and Water
    - Alcohol Based Hand Gel (if no running water)
  - Training on PPE
What is Enterovirus D68? EV-D68 is one of 100+ non-polio enteroviruses. U.S. is currently experiencing an outbreak associated with severe respiratory illness.

EV-D68 affects school age children primarily. Outbreaks occur primarily during the summer and fall.
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- How is EV-D68 Spread?
  Similar to the cold and flu, EV-D68 is present in an infected person’s sputum, saliva and nasal secretions.

- It spreads from person to person through sneezing, coughing and touching contaminated surfaces.
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- How to Prevent the Spread of EV-D68
- Clean/Disinfect Frequently Touched Surfaces
  - Increase Frequencies
- Appropriate Disinfectant
  - EV-D68 = Non-Enveloped Virus
  - CDC recommends Hospital Grade Disinfectant Effective Against Non-Enveloped Virus (norovirus, poliovirus, rhinovirus)
- Hand Hygiene Program
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- It’s Flu Season…
- Each Year:
  - 5-20% of U.S. Residents Acquire Flu
  - Avg of 200,000 in U.S. are hospitalized for flu-related complications
  - Worldwide: 3 – 5 Million Cases
  - 250,000 – 500,000 Deaths
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- **What is the Flu?** A contagious respiratory illness caused by the influenza viruses.

- **How Does Flu Spread?** It is spread from person to person through sneezing, coughing and touching contaminated surfaces.
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- CDC on Stopping the Spread of Flu
- Just Clean: Routine Cleaning Important
  - Removes Dirt, Impurities, Soil that Harbors Germs
- Clean and Disinfect Surfaces, Objects that are Touched Often
  - Daily
  - Desks, Countertops, Door Knobs, Faucet Handles
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- CDC on Stopping the Spread of Flu
- Disinfectant
  - Effective Against Influenza A
  - Follow the Label Directions for Use
  - Dwell Time
  - Keep Surface Wet
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- **Hand Hygiene**
  - Critical to avoid the spread of germs and sickness

- **Why?**
  - Primary method of germ transmission (80%)
  - Handwashing removes germs
  - Reduced incidence of diarrhea by 31%
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- **Hand Hygiene**
  - Why are we here talking about it?
- **People Fail to Do It!**
  - 49% of people using restrooms wash hands (NYC 2007)
  - 33% of men do not wash compared to 12% (Chicago 2007)
  - 95% do it incorrectly (Mich 2013)
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- **Hand Hygiene**
  - So, when and how?

- **When?**
  - After using the toilet
  - Before eating
  - After blowing your nose, coughing, sneezing
  - Before and after preparing food
  - After touching an animal
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- **Hand Hygiene**
  - So, when and how?
- **How?**
  - Wet your hands with running water
  - Lather your hands
  - Scrub for 20 seconds
  - Rinse with running water
  - Dry hands
  - Use hand sanitizer if no running water
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ISSA Resources

- Cleaning for Infection Prevention
  - www.issa.com/pandemic
- Value of Clean
  - www.issa.com/value
- Clean Standard: K-12
  - www.issa.com/cleanstandard
- Cleaning Industry Management Standard
  - www.issa.com/cims
- Cleaning Industry Training Standard
  - www.issa.com/cits
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Discussion