Infection Control: How to Prepare and Protect
• Healthcare-Associated Infections (HAI)
• Viruses and Bacteria: What You Need to Know
• Cleaning and Disinfecting Best Practices
• Resources
• Discover the overall impact of healthcare-associated infections (HAI) on healthcare and long-term care facilities

• Develop an understanding of the basics of viruses and bacteria – how they are transmitted and how to break the chain of infection

• Gain insights into the importance of cleaning and disinfecting techniques and procedures to help promote a clean and hygienic environment
OUR EXPERTS

Beatrix Babcock, MS-HSA, LPN
• Partner, HCI Consulting Group
  – Member of P&G Professional’s Advisory Council

Jack Liou, Ph.D.
• Senior Scientist, Product Design, P&G Professional

Mike Weber
• Technical & Science Liaison, and Past Principal Scientist/R&D, P&G Professional
Beatrix Babcock, MS-HSA, LPN
Partner, HCI Consulting Group
HISTORY OF INFECTION CONTROL

1847: Discover hand washing can stop the spread of infections

1950’s: Practice of epidemiology began

1847-1950’s: Advances in public health to make our water, air, sanitation and environment safer

1960’s-1990’s: Hospitals begin monitoring and developing their own infection control programs
• 1950’s – Epidemic of penicillin-resistant *Staphylococcus aureus* infections in hospital nurseries draws attention to infectious diseases

• Since then there’s been heightened awareness and monitoring of infectious diseases, from HIV to SARS and now Ebola

• Some viruses and bacteria have become resistant to antibiotics
Defined as an…
Infection that is localized or systemic, that was not present on admission to the healthcare facility, but occurs on or after the third calendar day (72 hours) of admission. The day of admission is considered day one. HAI occurs up to 3 days after discharge and up to 30 days after surgery.
HAI may be caused by endogenous or exogenous sources:

- **Endogenous Sources** – Body sites, such as nose, skin, mouth
- **Exogenous Sources** – External items, such as patient care equipment and medical devices

For an infection to be considered an HAI (in LTCF):

- There must be no evidence that the infection was present on admission to the facility or readmission (following hospitalization or community visit)
- There must be no evidence that the infection resulted from a procedure performed at an acute care hospital or in a physician’s office
HAI STATISTICS

• HAIs are a leading cause of death in the United States\(^1\)
• About 3 million live in long-term care facilities and 1 million live in assisted care, and each year 380,000 die from infections (9.5 percent)\(^2\)
• 1.6 to 3.8 million infections occur every year in LTCF\(^3\)
• Influenza is the 8th leading cause of death in the U.S.\(^1\)
• 90% of those deaths are in people 65 or older\(^1\)
• Clostridium difficile infection (CDI) – CDI-associated mortality increased from 5.7 per million population in 1999 to 23.7 per million in 2004\(^1\)

Sources:
\(^1\)National action plan to prevent HAI: Road map to elimination (April 2013)
\(^2\)CDC
\(^3\)The Society for Healthcare Epidemiology of America (SHEA)
Prevention of Nosocomial Infections and Cost Effectiveness in Nursing Homes:

- UTI’s rose by 1%
- Pneumonia increased 11%
- MRDOs rose by 18%
- Viral Hepatitis increased 48%

“Longitudinal Trends in Infection Rates in U.S. Nursing Homes, 2006-2011” from Columbia University School of Nursing found that nursing home infection rates are rising.
IMPACT OF HAI

Impact on Staff
• Adds time for care, diagnosis and treatment
• Viewed as a failure

Impact on Residents
• Leading cause of transfer to a hospital
• Loss of function
• Pain and suffering
• Increase in falls and pressure sores
• Sense of isolation
• Further weakens the immune system
• Death
Impact on Facilities

- Increase of direct and indirect costs
- Higher costs to third-party players
- Dissatisfaction from the families and residents
Long-Term Care Quality Reporting Program

• As of 2012 it has been required on a monthly basis to report all catheter-associated urinary tract infections to the National Healthcare Safety Network (NHSN) – a division of the CDC. This is then reported by the CDC to the Centers for Medicare & Medicaid Services.
Medicare Reimbursement

- CMS continues to expand the Long-Term Care Hospital (LTCH) Quality Reporting Program

CMS is finalizing several new LTCH quality measures that will affect FY 2017 and FY 2018 payment updates

- All-cause unplanned readmission measure for 30 days post-discharge from long-term care hospitals
- NHSN facility-wide inpatient hospital-onset MRSA bacteremia outcome measure
- NHSN facility-wide inpatient hospital-onset C. diff infection outcome measure
“Surveillance is the ongoing, systematic collection, analysis, interpretation and dissemination of data regarding a health-related event to reduce morbidity and mortality and to improve health. Surveillance of both process measures and the infection rates to which the processes are linked are important for evaluating the effectiveness of infection prevention efforts and for identifying indications for change.”

Association for Professionals in Infection Control and Epidemiology

- Standardized definitions (NHSN or SHEA)
- Identification of patient populations at risk for infection
- Statistical analysis
- Feedback of results to all stakeholders
Jack Liou, Ph.D.
Senior Scientist, Product Design
P&G Professional
BASICS OF MICROBIOLOGY

Microorganisms
• Bacteria
• Fungi
• Algae
• Protozoa
• Viruses

Characteristics
• Ubiquitous in nature
• Reproduce rapidly
• Beneficial
• Harmful
• Commensal
BACTERIA AND VIRUS STRUCTURES

Prokaryotic Cell Structure

- Cytoplasm
- Nucleoid
- Capsule
- Cell Wall
- Cytoplasmic Membrane
- Ribosomes
- Pili
- Flagella

(a) A T-even bacteriophage

Capsid (head)
- DNA

Sheath
- Pin
- Baseplate
- Tail fiber

Scale:
- Capsid (head) 65 nm
- Sheath 40 nm

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# Hierarchy of Pathogens

## Microorganism's Resistance to Disinfection and Sterilization Associated with Disinfection Level Classification

<table>
<thead>
<tr>
<th>High Resistance</th>
<th><strong>High-Level Disinfection or Sterilization</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bacterial Spores</td>
</tr>
<tr>
<td></td>
<td><em>(Bacillus subtilis, Clostridium difficile, Clostridium sporogenes)</em></td>
</tr>
</tbody>
</table>

## Intermediate-Level Disinfection

<table>
<thead>
<tr>
<th>Tubercle Bacilli</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(Mycobacterium tuberculosis, Mycobacterium bovis)</em></td>
</tr>
</tbody>
</table>

## Nonlipid and Small Viruses

| (Coxsackievirus, Hepatitis A Virus, Poliovirus, Rhinovirus) |

## Low-Level Disinfection

<table>
<thead>
<tr>
<th>Fungi</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(Aspergillus niger, Candida albicans, Trichophyton mentagrophytes)</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gram Positive &amp; Gram Negative Vegetative Bacteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(Pseudomonas aeruginosa, Salmonella choleraesuis, Staphylococcus aureus)</em></td>
</tr>
</tbody>
</table>

## Lipid or Medium-Sized Viruses

| (Cytomegalovirus, Hantavirus, Herpes Simplex Virus, Hepatitis B Virus, Human Immunodeficiency Virus-HIV 1, Respiratory Syncytial Virus) |

(2) Modified from Favero and Bond, 1991
COMMON WAYS OF TRANSMISSION / PREVALANCE IN SOCIETY

- Germs are pervasive in our environment and are easily spread through contact with others, surfaces and inhalation/ingestion
- Germs cause diseases and kill more people than any other cause globally
- There is a high germ awareness with recent pandemics (H1N1, SARS, MRSA, etc.)
- Population growth, urbanization and work and travel practices have increased contact and the spread of germs
- Children and the aging population are more at risk than all other groups
- Treatment of diseases caused by germs is estimated at $120 billion annually in the U.S. alone
COMMON VIRUSES AND CURRENT HOT TOPICS

Common Viruses
• Influenza Virus
• Norovirus

Hot Topics
• Enterovirus (EV-D68)
• Ebola Virus Disease (EVD)
INFLUENZA VIRUS

Common Name: “The flu”

Three types of Influenza Virus: A, B and C

Signs and Symptoms of Flu:
• Fever* or feeling feverish/chills
• Cough
• Sore throat
• Runny or stuffy nose
• Muscle or body aches
• Headaches
• Fatigue (very tired)
• Some may have vomiting and diarrhea (more common in children than adults)

Note: Not everyone with flu will have a fever
INFLUENZA TRANSMISSION AND PREVENTION

How Flu Spreads
• Droplets made when people with flu cough, sneeze or talk. Droplets can land in the mouths or noses of people who are nearby
• Touching a surface/object that has flu virus on it and then touching your mouth, eyes or nose

Prevention
• Minimize contact with sick people
• Wash hands
• If you have the flu, stay home from work to prevent spreading it to others
Where do norovirus outbreaks from food contamination happen?

- Restaurant: 64%
- Catering or Banquet facility: 17%
- Private Residence: 4%
- Health Care Facilities: 1%
- Schools and Daycare: 1%
- Other/multiple: 13%


How contagious is norovirus?

Just a very small amount - as few as 18 viral particles - of norovirus on your food or your hands can make you sick.

That means the amount of virus particles that fit on the head of a pin would be enough to infect more than 1,000 people!

Source: Journal of Medical Virology, August, 2008
Ways to prevent norovirus outbreaks from food contamination

Kitchen managers should be trained and certified in food safety and ensure that all food service workers follow food safety practices outlined in the FDA model Food Code and CDC guidelines.

- Cook shellfish thoroughly
  - Avoid serving undercooked (below 140°F) oysters and other shellfish.

- Stay home when sick
  - Food service workers should stay home when sick with vomiting or diarrhea and for at least 48 hours after symptoms stop.

- Avoid touching food with bare hands
  - Use utensils and single-use disposable gloves to avoid touching ready-to-eat foods with bare hands.

- Rinse fruits and vegetables
  - Carefully rinse fruits and vegetables before preparing and serving them.

- Wash your hands
  - Wash all parts of hands and exposed portions of arms by rubbing them together vigorously with soap and warm water for at least 20 seconds in a designated hand washing sink.

- Clean and sanitize surfaces and utensils
  - Regularly clean and sanitize kitchen surfaces and frequently touched objects, using a chlorine-based product or other sanitizer approved by the Environmental Protection Agency for use against norovirus.

ENTEROVIRUS / EV-D68

Enterovirus
• Very common – more than 100 types
• 10-15 million infections in U.S. each year
• Cause respiratory illness, febrile rash illness (HFMD), neurologic illness
• Most infected people are asymptomatic or have mild symptoms
• Infants and children more likely to become ill

EV-D68
• Occurs less commonly
• Known to cause respiratory illness
• Known to infect children and adults
• Similar to rhinoviruses
• Clusters have previously been described in the U.S., Europe and Asia

P&G Professional™

every experience counts.™
EV-D68 STATISTICS

- 130 patient specimens where EV-D68 has been identified
- Of those, 117 of 219 (53%) specimens have been confirmed at the CDC Lab
- 13 specimens confirmed at N.Y. State Public Health Laboratory
- 12 states affected
- The difference: magnitude or degree of identification of EV-D68
EV-D68 TRANSMISSION / PREVENTION

Transmission
• Droplets made when people cough, sneeze or talk that can land in the mouths or noses of those nearby
• Touching a surface/object that has “the virus” on it, then touching mouth, eyes or nose

Prevention
• Standard/contact precautions as recommended for all Enteroviruses
• As EV-D68 is a cause of clusters of respiratory illness, droplet precautions also should be considered as an interim recommendation until there is more definitive information available on appropriate infection control

Environmental Disinfection
• Bleach
• Hospital-grade EPA-registered disinfectant
Ebola Virus Disease (also known as Ebola Hemorrhagic Fever) is a severe, often-fatal disease caused by infection with a species of Ebola Virus

- The first Ebola Virus species was discovered in 1976 in what is now known as the Democratic Republic of the Congo near the Ebola River
- Since the initial discovery, outbreaks have appeared sporadically
- Virus Family – Filoviridae → 3 genera → 5 species
## EBOLA CASE COUNTS

### As of Nov. 28, 2014

#### Countries with Widespread Transmission

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Cases</th>
<th>Laboratory-Confirmed Cases</th>
<th>Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea</td>
<td>2155</td>
<td>1921</td>
<td>1312</td>
</tr>
<tr>
<td>Liberia</td>
<td>7635</td>
<td>2801</td>
<td>3145</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>7109</td>
<td>5831</td>
<td>1530</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16899</strong></td>
<td><strong>10553</strong></td>
<td><strong>5987</strong></td>
</tr>
</tbody>
</table>

#### Countries with an Initial Case or Cases and/or Localized Transmission

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Cases</th>
<th>Laboratory-Confirmed Cases</th>
<th>Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Mali</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>11</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

#### Previously Affected Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Total Cases</th>
<th>Laboratory-Confirmed Cases</th>
<th>Total Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria*</td>
<td>20</td>
<td>19</td>
<td>8</td>
</tr>
<tr>
<td>Senegal*</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Spain*</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>21</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

Source: CDC
**EBOLA SYMPTOMS**

**Initial Symptoms**
- Fever, chills, myalgia and malaise
- Patients can progress to develop gastrointestinal symptoms

**Other Symptoms**
- Chest pain, shortness of breath, headache or confusion, conjunctival injection, hiccups, seizures and cerebral edema
- Bleeding may develop or some develop diffuse erythematous maculopapular rash

**Common Current Symptoms**
- Fever (87%)
- Fatigue (76%)
- Vomiting (68%)
- Diarrhea (66%)
- Loss of appetite (65%)
- Patients with fatal disease develop more severe clinical signs early during infection and die between days 6-16 of complications
- In non-fatal cases, patients may have fever and then improve – around day 6
- The case fatality proportion in W. Africa is about 71%
How is Ebola Spread?
• Through direct contact with: blood or body fluids of an infected person or animal
• Through contact with objects that have been contaminated with the blood or other body fluids of an infected person

Prevention Guidance
• Emphasize the importance of training, practice, competence and observation of healthcare workers in correct donning and doffing of PPE selected by the facility

Source: CDC (as of October 20, 2014)
EBOLA TRANSMISSION / PREVENTION

Key Principles and Components

• Prior to patient contact, all workers must have repeated training and demonstrated competency in Ebola-related infection control

• Overall safe care must be overseen by onsite manager at all times. Each step of every PPE donning/doffing procedure is supervised by a trained observer

• Facilities must provide onsite management and oversight on safe use of PPE and implement administrative and environmental controls

• Patient placement/patient care equipment

• Environmental infection control

• Hand hygiene

Source: CDC (as of October 20, 2014)
BREAK THE CHAIN OF INFECTION

General Guidelines to Prevention
• Do not allow germs to escape and travel
• Break the chain by stopping the germs from entering
• Break the chain by killing or removing the infectious agent

Source: Health Unit
BREAK THE CYCLE OF TRANSMISSION

Technical solutions
The 3 C’s: Clean, Control & (c) Kill

Cleaning
Non-biocidal technologies which do not kill, but clean and penetrate the soil matrix

Controlling
Targeting soil matrixes with individualized operating procedures in reducing build-up or re-growth of microorganisms

(c) Killing
Killing is not always cleaning or complete, and may leave residues that lead to build-up or re-growth of microorganisms

Strategies to get reductions
RESOURCES

Centers for Disease Control and Prevention
www.cdc.gov

World Health Organization
www.who.int/en/
Mike Weber
Technical & Science Liaison, and past Principal Scientist/R&D
P&G Professional
IMPORTANCE OF CLEANING AND DISINFECTING

You never get a second chance to make a great impression.
IMPORTANCE OF CLEANING AND DISINFECTING

• Creates a safer environment
• Creates a more hygienic environment
• Creates a more welcoming environment
Cleaning is…
• Removing the “soil” or dirt from a surface

Disinfecting is…
• Killing/Reduction of microorganisms that can cause:
  a) disease
  b) odors
  c) spoilage
Not all disinfectants effectively remove soil

Example… Bleach is a powerful disinfecting ingredient, but bleach *alone* is not a cleaner *if at all*

Effective cleaning removes soil where germs are found and multiply.

Sticky surfaces mean the dirt could still be there!

Best value = Multipurpose products that clean *and* disinfect in a single step
MYTH OR FACT?

Stand Alone Disinfectants are Effective Cleaners
Here’s a Fact:
You must clean AND disinfect! Most disinfectants do NOT effectively remove soil, if at all

Another Important Fact:
Cleaning well allows disinfecting agents to work more effectively because the soil is removed and is not there to protect the germs

MYTH!!!

Residual soil can shelter organisms

- Must choose effective cleaning products
- Need the right product for the right job
Multipurpose Products Clean and Disinfect in One Simple Step

- Broad range of soils/task areas
- Reduce rework/errors – saving time and money
- Balance performance with user safety
- Simplify cleaning and training

Replaced by

[Image of multipurpose cleaning and disinfecting products]
Clean to remove dirt and disinfect to kill germs

Multipurpose products that clean and disinfect in a single step provide the best value
Using a Disinfectant Always Results in a Sanitary Surface
Surfaces may not be clean if soil is left behind by a disinfectant that is not an effective cleaner
• Use EPA-registered disinfecting products according to label instructions
• Look for the EPA registration number on the front of the label
EPA-REGISTERED DISINFECTANTS

Follow Proper Cleaning Procedures as Directed by the EPA

EPA Master Labels are public information available for download off the EPA site (see link below). To obtain any EPA Master Label, enter the Company Number and Product Number in the correct fields in the EPA Master Label search website:

http://oaspub.epa.gov/pestlabl/ppls.home

OR

Pay Added Attention to Highly Touched Areas:

- Door knob handles
- Sink faucets
- Food trays
- Counter tops
- Phones
- Chairs
- Tables

- Light switches
- Toilet handles
- Office equipment
- Handrails
- Elevator buttons

Clean and disinfect throughout the day!
Cleaning Tools Can Improve Performance and Efficiency

“Old” Conventional Tools
• Mops
• Sponges/“Rags”/Towels
• Brushes

Improved Tools
• Microfiber cloths
• Microfiber flat mops
• Disposable wipes
• Squeegees

Enhanced Tools
• Mr. Clean® Magic Eraser
• Swiffer® Sweeper & Duster
PREVENTING CROSS CONTAMINATION

Clean and/or Sanitize Properly After (Before) Use to Avoid Cross Contamination
Level of Cleanliness Directly Related to Prevention *and* Cleanliness of Equipment

**Prevention**
- Matting system
- Color coding

**Cleanliness**
- Proper laundering of microfiber cloths and pads
- Clean tools
- Disposable cleaning wipes
Personal Hygiene

• Hands are the most important “vector” of disease transmission
• Encourage frequent, proper hand washing
• Enable proper use of hand sanitizer

• And…cover your cough!
Key Training Needs
Formal cleaning and disinfecting procedures in place for key areas and tasks, including, but not limited to:

- **Occupied Resident/Patient Room**
  - Terminal/discharge room cleaning
  - Restrooms
  - Common areas

- **Blood Borne Pathogen/Biohazard Training**
  - Training compliant with OSHA guidelines
  - Biohazard clean-up kits provided
  - PPE provided and used, per OSHA & CDC guidelines

- **Food Service Area Cleaning**
  - Compliant with Food Code
  - Food contact surfaces cleaned/rinsed/sanitized
Resources and Tracking

• SDSs available and accessible, as per OSHA requirements
• Formal training held routinely
  • Documented and tracked
  • Shadowing and cross-training
  • Training resources available
• Other training/tracking/validation of employee cleaning and disinfecting effectiveness
  • UV marking
  • ATP environmentally monitoring
PGP University

• Free, web-based, educational resource
  www.pgpro.com/University

Benefits

• Free training and can provide CEUs toward professional certifications

Professional Development Section

• Written and video-based educational content
• Students can test their knowledge through self-study sessions/quizzes

Resource Library

• Robust offering of industry-related articles and expert insights

Product & Procedures Section

• Leads end-users to P&G Professional’s catalog of hands-on training tools
MYTH OR FACT?

Disinfecting is Complicated
Disinfecting does *not* need to be complicated!

Use effective cleaning and disinfecting products, as part of a system solution, along with the right tools and sound procedures
Main Messages

• P&G Professional has a complete line of disinfecting cleaners…
  “We have it covered!”

• P&G Professional’s disinfecting cleaners are highly effective cleaners…
  “The first and most important step in disinfecting is soil removal.”
<table>
<thead>
<tr>
<th>Key Pathogen/Category</th>
<th>PGP Product with Kill Claim/Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Level Disinfectant (aka “Medical Environment”)</td>
<td><strong>All</strong> PGP Disinfecting Products (Except 1:4 diluted (5X) Comet Disinfecting-Sanitizing Bathroom Cleaner)</td>
</tr>
<tr>
<td></td>
<td>• PGPL Disinfecting Floor &amp; Surface Cleaner</td>
</tr>
<tr>
<td></td>
<td>• Spic &amp; Span 3-1 Disinfecting All Purpose Spray &amp; Glass Cleaner</td>
</tr>
<tr>
<td></td>
<td>- <strong>Both RTU and</strong> Conc.</td>
</tr>
<tr>
<td></td>
<td>• Comet Disinfecting-Sanitizing Bathroom RTU</td>
</tr>
<tr>
<td></td>
<td>• Comet Disinfecting Cleaner with Bleach</td>
</tr>
<tr>
<td></td>
<td>- <strong>Both RTU and</strong> Diluted at 1:4 (5X)</td>
</tr>
<tr>
<td></td>
<td>• Clean Quick Broad Range Quat (½ oz per gal)</td>
</tr>
<tr>
<td></td>
<td>• Clean Well Botanical Disinfectant Cleaner</td>
</tr>
<tr>
<td>Meets OSHA BBP (Blood Borne Pathogen) Requirements</td>
<td></td>
</tr>
<tr>
<td>Norovirus</td>
<td>• Spic &amp; Span 3-1 Disinfecting All Purpose Spray &amp; Glass Cleaner – <strong>Only</strong> RTU</td>
</tr>
<tr>
<td></td>
<td>• Comet Disinfecting-Sanitizing Bathroom RTU</td>
</tr>
<tr>
<td></td>
<td>• Comet Disinfecting Cleaner with Bleach – <strong>Both RTU and</strong> Diluted at 1:4 (5X)</td>
</tr>
<tr>
<td></td>
<td>• Clean Quick Broad Range Quat (½ oz. per gal)</td>
</tr>
<tr>
<td>Key Pathogen/Category</td>
<td>PGP Product with Kill Claim/Status</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------</td>
</tr>
</tbody>
</table>
| C. diff – Clostridium difficile spores | - Comet Disinfecting Cleaner with Bleach  
  - *Only* RTU |
| CRE – Carbapenem Resistant Enterobacter Pathogen Category | - Spic & Span 3-1 Disinfecting All Purpose Spray & Glass Cleaner  
  - *Both* RTU and Concentrate  
  - Comet Disinfecting-Sanitizing Bathroom Cleaner  
  - RTU  
  - Comet Disinfecting Cleaner with Bleach –  
  - *Both* RTU and Diluted at 1:4 (5X) |
In the unlikely situation where Ebola is suspected, use disinfectants that meet these three standards:

1) Identified by EPA as disinfectants for use against the Ebola Virus
   http://www.epa.gov/oppad001/list-l-ebola-virus.html

2) Identified as suitable for disinfecting all three types of “sites” recognized by EPA
   • Health, institutional and residential (helps ensure chemical safety)

3) Combine cleaning and disinfection into one step

Two P&G Professional products appear on the EPA website and meet all three standards for all three EPA site classes: Comet Disinfecting Bathroom Cleaner and Concentrated Spic and Span Disinfecting All Purpose Spray and Glass Cleaner
Comet® Disinfecting Cleaner with Bleach

- Unique 2-in-1 all-purpose cleaner and disinfectant
- One of few products effective against Clostridium difficile spores (C. diff)

(When used as directed-RTU only)*
Assuming poor hand hygiene is the most frequent cause of the spread of disease, after this…

“Inadequate cleaning is likely the single biggest cause for an outbreak in a healthcare facility”

Who said that?
Clostridium difficile (C. difficile) causes life-threatening diarrhea. These infections mostly occur in people who have had both recent medical care and antibiotics. Often, C. difficile infections occur in hospitalized or recently hospitalized patients.

**Resistance of Concern**

- Although resistance to the antibiotics used to treat C. difficile infections is not yet a problem, the bacteria spreads rapidly because it is naturally resistant to many drugs used to treat other infections.
- In 2006, a stronger strain of the bacteria emerged. This strain is resistant to fluoroquinolone antibiotics, which are commonly used to treat other infections.
- This strain has spread throughout North America and Europe, infecting and killing more people wherever it spreads.

**Public Health Threat**

- 250,000 infections per year requiring hospitalization or affecting already hospitalized patients.
- 14,000 deaths per year.
- At least $1 billion in excess medical costs per year.
- Deaths related to C. difficile increased 400% between 2000 and 2007, in part because of a stronger bacteria strain that emerged.
- Almost half of infections occur in people younger than 65, but more than 90% of deaths occur in people 65 and older.
- About half of C. difficile infections first show symptoms in hospitalized or recently hospitalized patients, and half first show symptoms in nursing home patients or in people recently cared for in doctors’ offices and clinics.
C. diff

Comet Disinfecting Cleaner with Bleach, RTU only, kills C. diff spores. To note….

- Prior to C. diff sporacidal kill claims, bleach alone was the only alternative
- Comet DCwB is a highly effective all-purpose cleaner
  - Cleaning is critical for disinfecting efficacy
  - Comet DCwB can be used for both EPA required 2 steps….
  - Both cleaning and disinfecting steps

Note: PGP has procedures for C. diff mitigation
C. diff CLEANING PROCEDURES

• Two step cleaning process **for all registered C. diff** disinfectants as shown on their master label

• Special label instructions for cleaning prior to disinfection – fecal matter/waste must be thoroughly cleaned from surfaces/objects before disinfection by application with product

  This is true for any/all other products used to kill C. diff spores
Spic & Span® Disinfecting All-Purpose Spray and Glass Cleaner*

- 3-in-1 all-purpose cleaner
- Cleans and disinfects dry surfaces, touch points, shiny surfaces and glass
- Hospital-grade disinfectant, bactericide, fungicide, deodorizer and virucide

*Indicates EPA-registered product
Comet® Disinfecting Bathroom Cleaner*
• Cleans and disinfects wet surfaces, removing tough soils and hard water minerals
• Hospital-grade disinfectant, bactericide, fungicide, deodorizer and virucide

*Indicates EPA-registered product
P&G Pro Line® Disinfecting Floor & Surface Cleaner*

- Combines activity of dialkyl quat with powerful cleaning agents, buffered to a neutral pH for no-rinse cleaning and disinfecting
- One-step cleaner, disinfectant and deodorizer
- Can also be diluted for spray usage

*Indicates EPA-registered product
Botanical Disinfectant Cleaner
- Unique improved scent
- Tuberculocidal in 5 minutes
- Hospital-grade disinfectant
- Virucidal, bactericidal, fungicidal
- Decontaminant and deodorizer

With a Nice Botanical Scent!
CLEANING PROGRAM
PRODUCTS

Clean Quick® Sanitizers
(quaternary ammonium and chlorine based)*

• Can be used to sanitize surfaces

*Indicates EPA-registered Product
ANTIBACTERIAL SOAP
- Mild to skin — even with repeated use
- Does not cause irritation — dermatologist tested
- No unpleasant chemical odor
- E-2 version exists
- Not formulated using Triclosan (TCS)

*Indicates FDA-registered product

HAND CARE PRODUCTS

EFFECTIVE AGAINST MOST COMMON BACTERIA*
- Antibacterial hand sanitizer gel
- 62% Isopropyl alcohol
- Effective against most common bacteria*
- No perfume
- No color
- No need to rinse

*Indicates FDA-registered product
For more information visit: [www.pgpro.com](http://www.pgpro.com)
or call (800) 332-7787 or 888-4PGProline (474-4465).