

Best Practices for Environmental Cleaning for Prevention and Control of Infections In All Health Care Settings: Time for Review

Provincial Infectious Diseases Advisory Committee on Infection Prevention and Control (PIDAC-IPC)

Mary Vearncombe, MD, FRCPC

Chair, PIDAC Committee on Infection Prevention and Control
Co-Medical Coordinator, Central Region Infection Control Network
Medical Director, Infection Prevention and Control
Sunnybrook Health Sciences Centre



Objective:

To review key concepts in and receive feedback on:
PIDAC Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, 2009 ...

- in preparation for 2 year review

PIDAC Organizational Structure

- PIDAC is now part of Public Health Ontario (formerly Ontario Agency for Health Protection and Promotion)
- all PIDAC documents have been transferred to PHO website
- IP&C Committee transferred intact



Background

- Healthcare Associated Infections (HAIs) occur as a result of health care interventions in any health care setting
- HAIs are a patient safety issue and represent a significant adverse outcome of the healthcare system
- The environment around the client/patient/resident influences the incidence of infection
 - Cleaning and disinfection reduces the numbers of microorganisms in the healthcare environment
- The goal of cleaning is to keep the environment safe for patients/residents, staff and visitors
- **Environmental Services is an important partner in patient safety**

The Client/Patient/Resident Environment

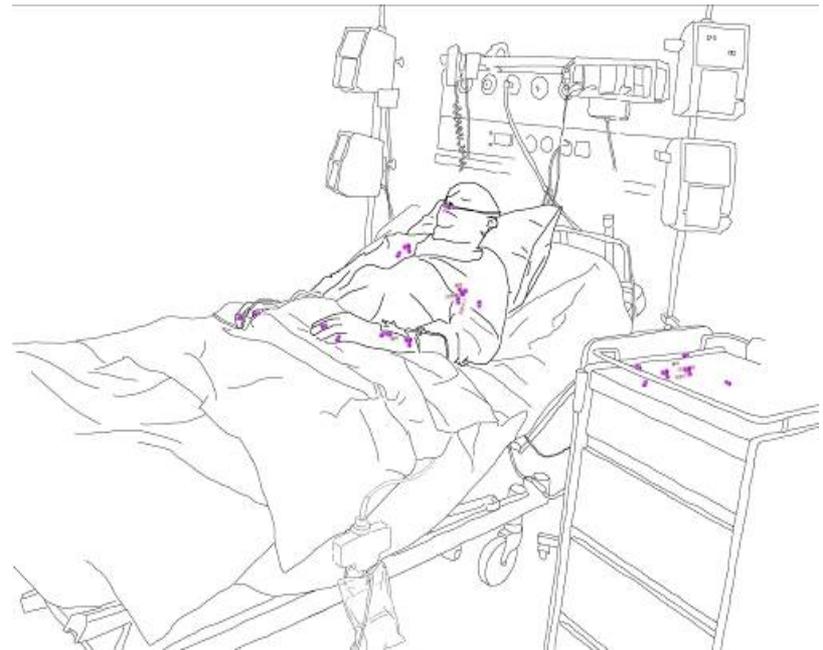
- Patients shed microorganisms into the healthcare environment
 - Shedding increased if coughing, sneezing, diarrhea
- Bacteria and viruses survive on surfaces for days to months
- The area around the patient is touched by the HCW during care
- Many surfaces and non-critical patient care equipment items have been shown to be contaminated
- Cleaning disrupts the transfer of microorganisms to HCW hands and other patients

Transmission: Step 1

(Pittet et al, *The Lancet Infectious Diseases*, October 2006)

Organisms present on patient skin and environment surfaces

- Organisms (e.g. *S. aureus*, enterococci *Acinetobacter* spp.) present on intact areas of some patients' skin: 100-1 million colony forming units (CFU)/cm²
- Nearly 1 million skin squames containing viable organisms are shed daily from normal skin
- Patient environment (bed linen, furniture, objects) becomes contaminated by patient organisms



“High touch” surfaces require particular attention

High Touch Surfaces

- Frequent contact with hands
 - higher likelihood to be a source for transmission
- Require more frequent cleaning
 - at least daily or more frequently if higher contamination
- e.g. doorknobs, telephone, call bell, bedrails, keyboards, monitors, etc.

Low Touch Surfaces

- Minimal contact with hands
- Require scheduled cleaning and when visibly soiled
- e.g. floors, walls, window sills, etc.

“Hotel Clean” vs “Hospital Clean”

“Hotel Clean”

- A measure of cleanliness based on visual appearance that includes dust/dirt removal, waste disposal and cleaning of windows and surfaces. The basic cleaning that takes place in all areas of the health care setting.

“Hospital Clean”

- A measure of cleanliness routinely maintained in patient care areas of the health care setting.
- Hospital clean is hotel clean with the addition of disinfection, increased frequency of cleaning, auditing and other infection control measures in patient care areas.

Priority for cleaning should be given to patient care areas, rather than administrative or public areas.

Frequency of Routine Cleaning

Depends on:

- frequency of contact: high touch vs low touch surfaces
- type of activity in the area
- vulnerability of the patients in the area
- probability of body substance contamination in the area

- Each area should be evaluated to determine the appropriate routine cleaning
 - [Appendix B: Risk Stratification Matrix to Determine Frequency of Cleaning](#)

Assessment of Cleanliness and Quality Control

Just because it looks clean doesn't mean it is clean

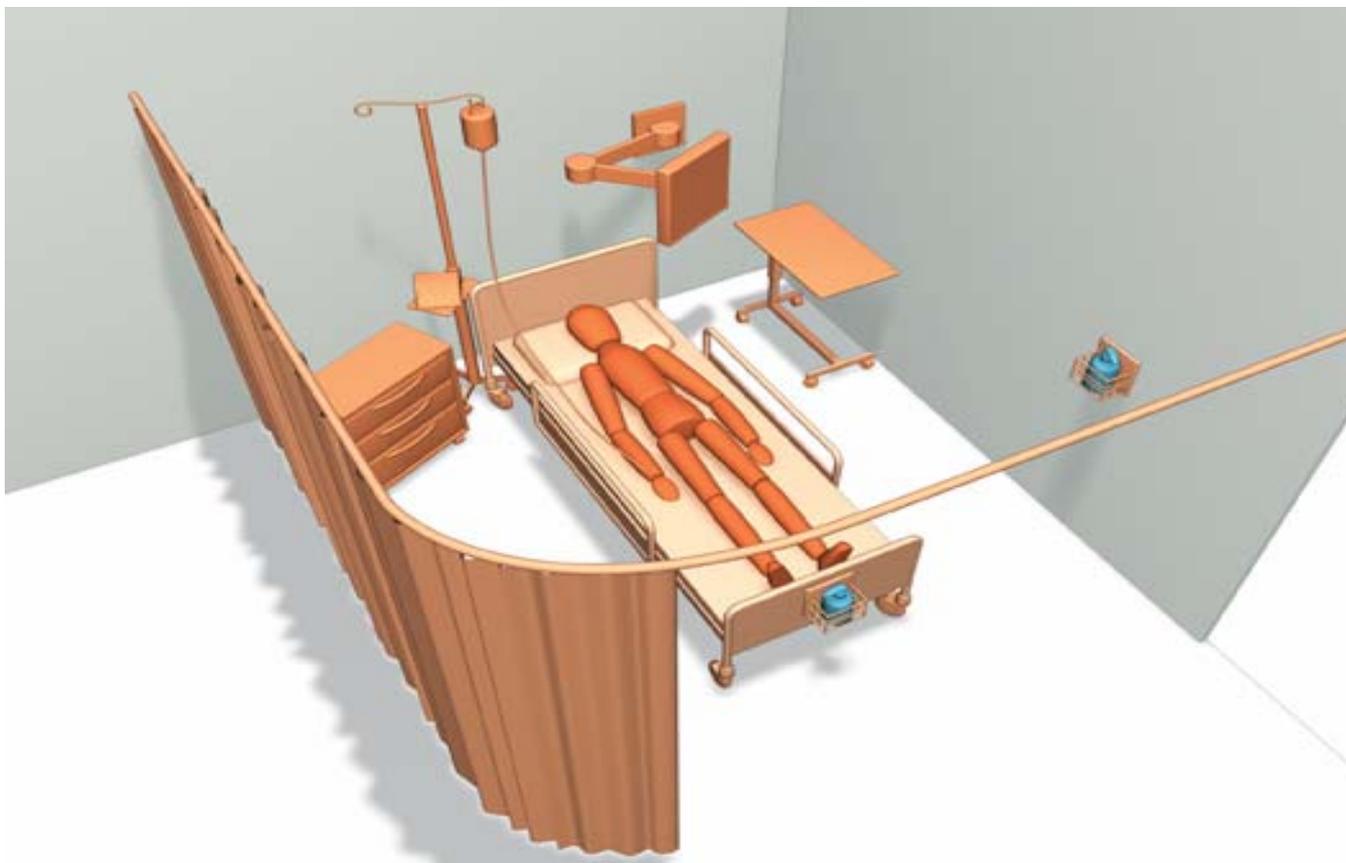
- Direct and indirect observation
- Residual bioburden
- Environmental marking

Environmental Services and Routine Practices

ES staff must adhere to Routine Practices when cleaning

- Movement of ES staff between each patient's environment needs to reflect practice of other HCWs
- Hand Hygiene:
 - The single most effective measure to prevent spread of HAIs
 - ABHR is the preferred method, unless hands visibly soiled
 - Must be practiced:
 - Before contact with patient/patient environment
 - After potential body substance exposure, even if gloves worn
 - After contact with patient/patient environment
- **Gloves must be removed/changed and hand hygiene performed between each patient's environment**
- Cleaning of non-critical items between each patient
 - Need for clear definition of responsibility for cleaning of each item

Definition of Patient's Environment



PIDAC Best Practice Documents

- Developed by committee of experienced, trained, qualified experts
- “Industry” consultants recruited when appropriate
- Documents are evidence-based on published literature
 - Updates/changes to document will be evidence-based
- “Best practices” rather than standards
 - Practices for organization to work toward to improve patient safety

How we move forward:

- Review of new published evidence
 - Evolving technology
 - Disinfectant formulations
 - Measures of cleaning effectiveness
- Continue to have ES consultant advice at the table
- Feedback from you
 - Errors/clarifications/omissions
 - Usefulness of Appendix B: the “matrix”
 - Usefulness of the toolkit
 - Other

CAEM and RICNs

Still *Doing It Right – Together*

→ Stakeholder Town Hall