A Quantitative Assessment of Environmental Hygiene

Cleaning By Numbers

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Education Conference
June 14, 2019

AGENDA

Performance Frameworks

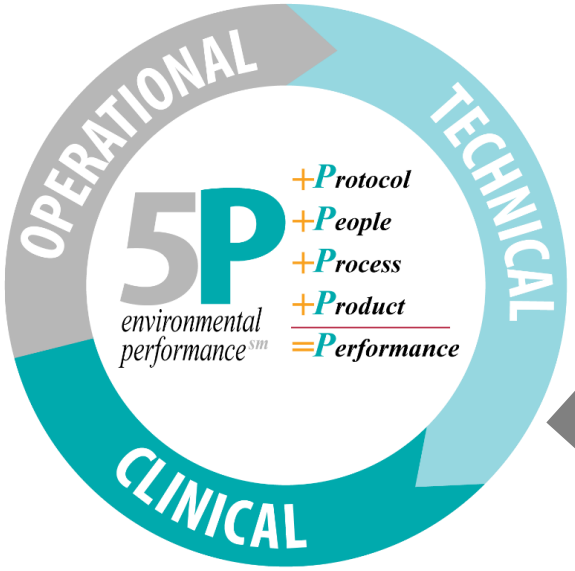
The Rationale for Measurement

Audit Frameworks

Patient Perspective

INFECTION PREVENTION & CONTROL

ENVIRONMENTAL HYGIENE



CLINICAL = Medical, Clinical, Infection Prevention & Control

TECHNICAL = Hygiene Supply & Technology Industries

OPERATIONAL= Environmental Services, Supply Chain, Finance

Hygiene Outcomes = Clinical Impact = Value for Money

Protocol: the science of cleaning and disinfection, integrated clinical, professional & technical, evidence-based practice guidance

People: motivated and independent thinking workforce, competent & engaged human resources, organized and aligned to patient-safety

Process: scalable & replicable output, consistent execution of standard operating practices, effectively integrated with clinical care

Product: products, equipment, technology and systems, strategic & effective utilization of hygiene technology enablers

Performance: what "good" looks like, continuous improvement informed by measurable key performance indicators

WHY MEASURE CLEANING?

1. Confirm the effectiveness of the cleaning process, supplies, tools and accessories

2. Ensure staff have a clear understanding of scope of work, task performance standards, and outcome expectations

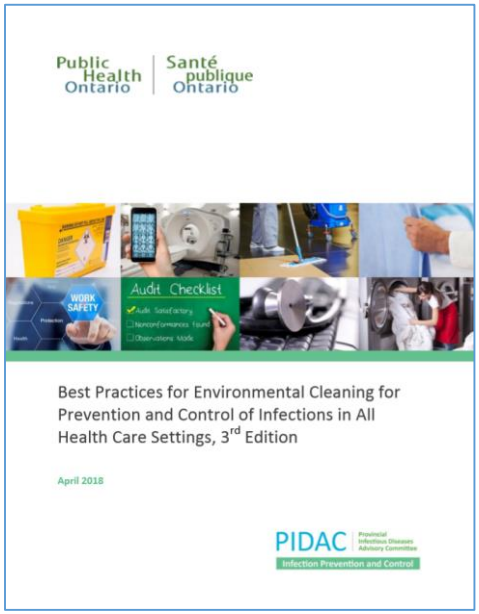
3. Identify surfaces, furniture or fixtures that are in sub-optimal condition, including:
   - Aged/damaged – non cleanable
   - Unsafe conditions
   - Unacceptable appearance

4. Validate that hygienic condition exist to support optimal/safe patient-resident care

LEADING PRACTICE GUIDANCE

The responsibility for ensuring that cleaning of the environment in a health care facility is performed according to best practices and facility ***policy belongs to all staff involved in environmental cleaning****, from the front-line environmental service workers, to supervisors, managers and directors….*

…to ensure that this goal is met, a quality control program that includes ***regular assessments of cleaning and cleanliness*** *is required.*



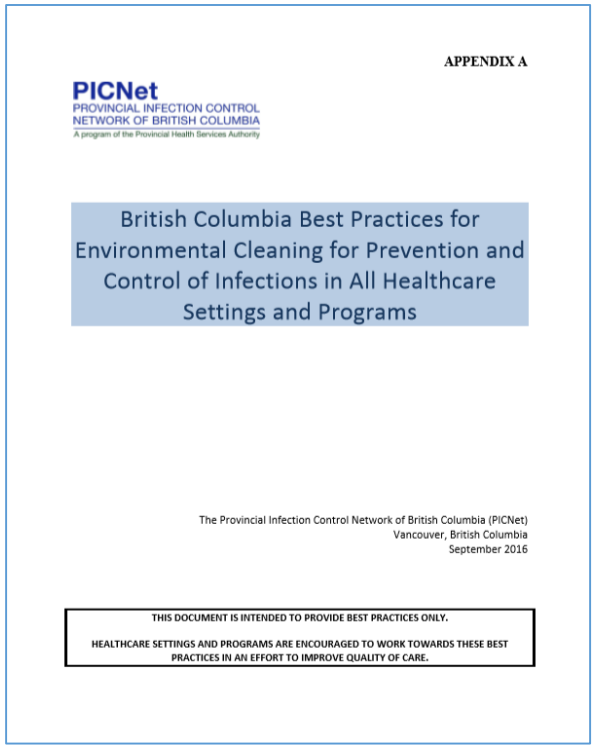
2018

LEADING PRACTICE GUIDANCE

The ES department is responsible to ensure that the quality of cleaning maintained in the healthcare setting meets appropriate IPAC best practices. The responsibility for ensuring that the standardized cleaning practices are to lies not just with the person performing the task, but also with the direct supervisor and management of the department or agency providing the cleaning service…..

…. Monitoring of cleaning practices should be an ongoing activity…should take place immediately after cleaning.

….Auditing the cleanliness of the healthcare setting periodically and whenever changes to methodologies are made is essential.



APPENDIX A

PICNet
PROVINCIAL INFECTION CONTROL NETWORK OF BRITISH COLUMBIA
A program of the Provincial Health Services Authority

British Columbia Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Healthcare Settings and Programs

The Provincial Infection Control Network of British Columbia (PICNet)
Vancouver, British Columbia
September 2016

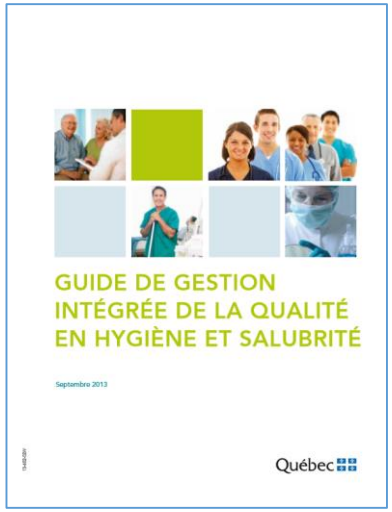
THIS DOCUMENT IS INTENDED TO PROVIDE BEST PRACTICES ONLY.

HEALTHCARE SETTINGS AND PROGRAMS ARE ENCOURAGED TO WORK TOWARDS THESE BEST PRACTICES IN AN EFFORT TO IMPROVE QUALITY OF CARE.

2016

LEADING PRACTICE GUIDANCE

Santé et Services sociaux Québec



2013

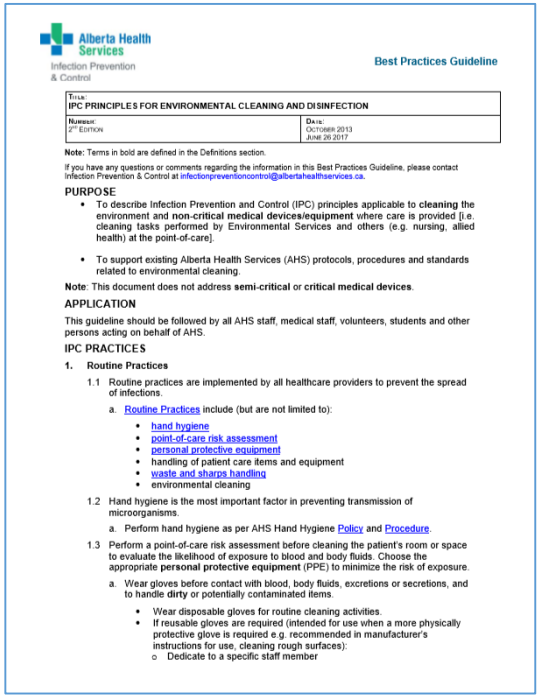
RESULT AUDITS	VISUAL INSPECTION	FLUORESCENT MARKER	ATP	MICROBIOLOGICAL CULTURE	SURVEY
Description	Visual validation of cleanliness	Environmental surfaces are marked with an invisible tracing agent that can only be seen using a revealing agent	Surfaces can be tested after cleaning to determine the quantitative level of ATP present	Cultures can be taken from surfaces after cleaning to determine if bacteria are present	Questions asked to patients to evaluate their satisfaction on cleanliness
Element Evaluated	Visual cleanliness	Mechanical action	Organic matter	Live bacteria	Customer satisfaction
Advantages	Fast evaluation and feedback Reproducible measures if definition is clear	Quick feedback Easy to implement Results easily understood Allows direct assessment of cleaning thoroughness (i.e., proportion of surfaces cleaned)	Allows assessment of residual organic material present after cleaning Provides quantitative result Easy to implement Quick results	Provides the only direct measure of contamination of viable microorganisms (level of bacterial contamination	Can reach a lot of people
Disadvantages	Subjective method, dependent on evaluator's judgement and the environment Possible contamination even if visual cleanliness	Not an evaluation of the quality of disinfection Does not directly measure microbial contamination Surface texture may affect removal of the tracing agent	Many variables can influence results Absence of organic matter does not rule out presence of microorganisms Results not comparable across systems due to lack of standardization	Lengthy method Limited information provided Expensive Not standardized	Response rate is often low Results are based on perceptions

LEADING PRACTICE GUIDANCE

A process should be in place to monitor the quality of cleaning in the healthcare setting.

Results of cleaning audits should be analyzed and reported back to staff.

An action plan should be developed to identify and correct deficiencies.



Alberta Health Services
Infection Prevention & Control

Best Practices Guideline

TITLE:
IPC PRINCIPLES FOR ENVIRONMENTAL CLEANING AND DISINFECTION

NUMBER:
2nd EDITION

DATE:
OCTOBER 2013
JUNE 26 2017

Note: Terms in bold are defined in the Definitions section.

If you have any questions or comments regarding the information in this Best Practices Guideline, please contact Infection Prevention & Control at infectionpreventioncontrol@albertahealthservices.ca.

PURPOSE

- To describe Infection Prevention and Control (IPC) principles applicable to **cleaning** the environment and **non-critical medical devices/equipment** where care is provided [i.e. cleaning tasks performed by Environmental Services and others (e.g. nursing, allied health) at the point-of-care].
- To support existing Alberta Health Services (AHS) protocols, procedures and standards related to environmental cleaning.

Note: This document does not address **semi-critical** or **critical medical devices**.

APPLICATION

This guideline should be followed by all AHS staff, medical staff, volunteers, students and other persons acting on behalf of AHS.

IPC PRACTICES

1. **Routine Practices**

1.1 Routine practices are implemented by all healthcare providers to prevent the spread of infections.

a. Routine Practices include (but are not limited to):

- hand hygiene
- point-of-care risk assessment
- personal protective equipment
- handling of **patient care items** and equipment
- waste and sharps handling
- environmental cleaning

1.2 Hand hygiene is the most important factor in preventing transmission of microorganisms.

a. Perform hand hygiene as per AHS Hand Hygiene Policy and Procedure.

1.3 Perform a point-of-care risk assessment before cleaning the patient's room or space to evaluate the likelihood of exposure to blood and body fluids. Choose the appropriate **personal protective equipment** (PPE) to minimize the risk of exposure.

a. Wear gloves before contact with blood, body fluids, excretions or secretions, and to handle **dirty** or potentially contaminated items.

- Wear disposable gloves for routine cleaning activities.
- If reusable gloves are required (intended for use when a more physically protective glove is required e.g. recommended in manufacturer's instructions for use, cleaning rough surfaces):
  - Dedicate to a specific staff member

2017

HIEARCHY OF ASSESSMENT

Foundational
- Visual Cleaning Assessments
- Patient-Visitor Satisfaction Survey

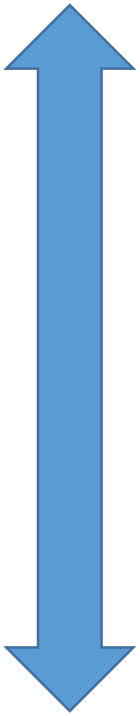
Supportive
- Florescent Marker Audits
- Cleaning Process Compliance Audits

Analytical
- Adenosine Triphosphate (ATP)
  - *proxy organic matter and microbial contamination*
- Environmental Sampling
  - *quantitative microbial risk assessment*

Qualitative

Educational

Quantitative



Subjective
Consistent
Leading Indicator
Easy to Perform
Low Cost

Objective
Variable
Lagging Indicator
Advanced Technique
High Cost

QUALITY MANAGEMENT SYSTEM **QMS**

QMS is a system for organizing quality monitoring, reporting and improvement

QMS for environmental hygiene should be administered by Environmental Services; however should be under the oversight of a multi-disciplinary team, including:

- Environmental Services staff and leadership
- Other work teams / departments who clean & disinfect
- Infection Prevention and Control
- Quality Management
- Workplace Health & Safety

- Environmental Hygiene quality monitoring and audit protocols should be reviewed under the ***QMS*** framework, including:
  - Who / What / Where / When / How Many
- Audit (data) findings, minimum thresholds, should be reviewed with key stakeholders of the environmental hygiene ***QMS*** team.
- ***QMS*** should monitor quality improvement initiatives, including:
  - Training, SOP Updates, Scope Clarification, Remedial Cleaning Repairs

QUANTITATIVE MICROBIAL RISK ASSESMENT

QMRA (quantitative microbial risk assessment) *process of estimating the risk from exposure to microorganisms*

CFU (colony-forming unit) *unit used to estimate the number of viable bacteria or fungal cells in a sample*

RLU (relative light unit) *a unit for measuring cleanliness by measuring the levels of Adenosine Triphosphate*

Fomites *inanimate objects that when contaminated with infectious agents can transfer disease to a new host*

QUANTITATIVE MICROBIAL RISK ASSESMENT

- Expressing hygiene levels to CFU based number
- Correlating low CFU to risk of infection transmission
- Suggest introducing microbiological environmental culture sampling as the ultimate means to evaluate the safety of fomite surfaces
- Leading practice guidance literature do not support routine us of microbiological environmental culture sampling
- Protocols for introducing microbiological environmental culture sampling into a healthcare facility do not exist

PATIENT PERSPECTIVE