

AUDITING EVS: MEASURE WHAT MATTERS

IPAC Canada Hygiene Pre-Conference
Natalie Bruce, RN, BScN, MScN, CIC, FAPIC

- Nothing to declare

OBJECTIVES

During this session we will:

- Review general environmental audit methods
- Provide details on the methods to help form decisions on what method best meets the needs of a facility or institution
- Discuss audit feedback and factors that can influence behaviour improvement and change

MEASURING CLEANING AND CLEANLINESS: AUDITING METHODS

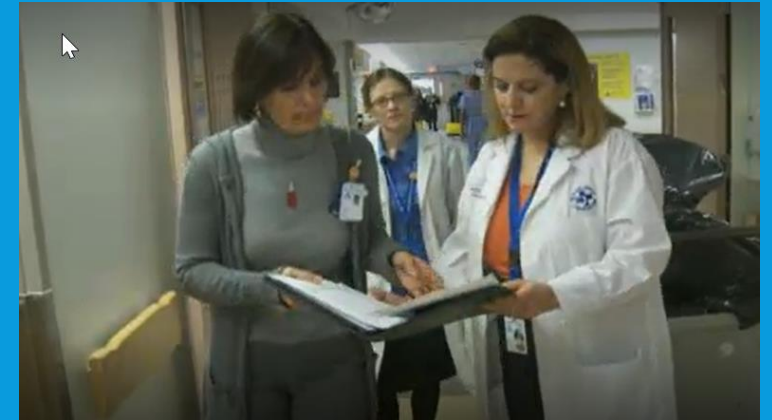
- Several methods available, each address different aspects of cleaning and disinfection
- Each has strengths and weaknesses
- Divided in two categories observational and measurement
- Institutions require different investment for labour and/or financial resources depending on the method
- Recommendations suggest implementing multiple methods and at least one observational and measurement method at a minimum

MEASURING CLEANING AND CLEANLINESS: AUDITING METHODS

- Aggregate results to the appropriate persons
- Consider Implementing cooperatively
- Results should be used for education, training with constructive feedback –not punitive
- Auditing should align with teaching and training expectations

OBSERVATIONAL METHODS: VISUAL ASSESSMENT

- Primary method in the past
- Continues to be important for hotel clean
- Standardized approach and checklist
- Easy to implement and provide feedback
- Results do not correlate with levels of microbial contamination
- Does not assure healthcare clean has been obtained
- Interobserver variability



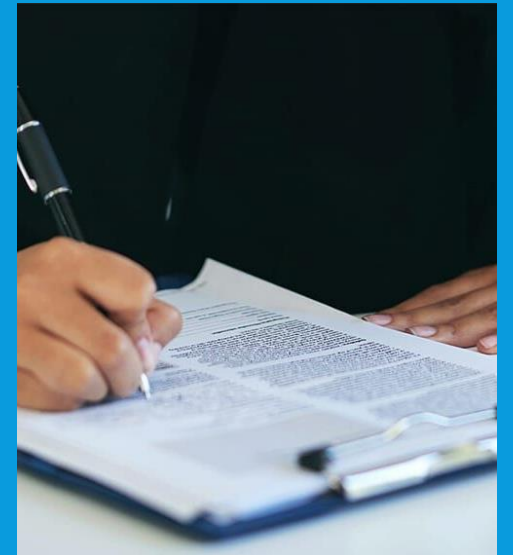
OBSERVATIONAL METHODS: PERFORMANCE OBSERVATION

- Involves trained observers
- Easy to implement
- Useful to assess that facility procedures are being performed correctly
- Promotes staff engagement, and is an opportunity for direct feedback from supervisors
- Difficult to standardize or measure is labour intensive and time consuming
- Important tool for quality assurance in environmental services



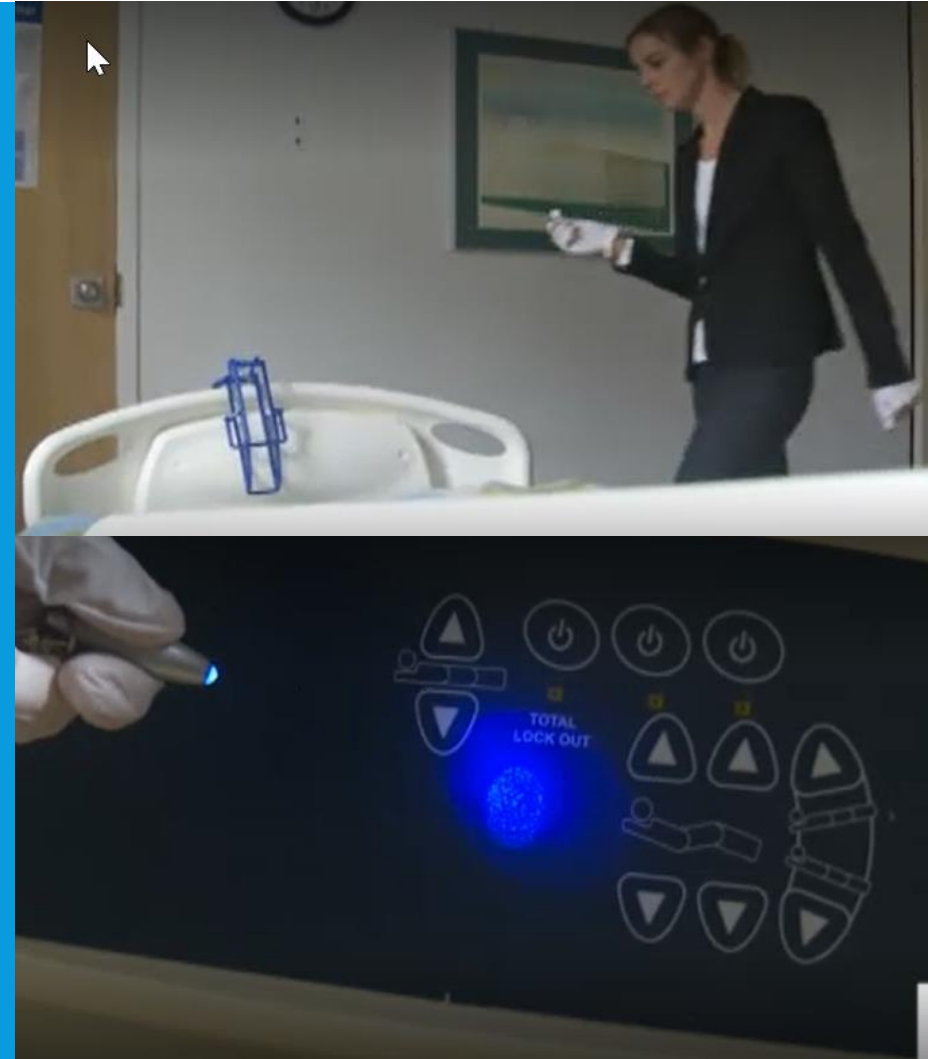
OBSERVATIONAL METHODS: SATISFACTION SURVEYS

- Surveys provide feedback on the appearance of the facility from the patient's perspective
- Opportunity to identify gaps, priorities, and needs of the patient
- Potential opportunity for staff recognition
- Does not measure cleanliness



MEASUREMENT: FLUORESCENT ENVIRONMENTAL MARKING

- Method that uses a fluorescent lotion, powder, or gel
- Measures the thoroughness of the physical action of cleaning using a trace agent
- The trained auditor marks the area before after cleaning
- Typically, high touch surfaces (HTO) are marked for auditing
- Following the cleaning the trained auditor assesses the surfaces

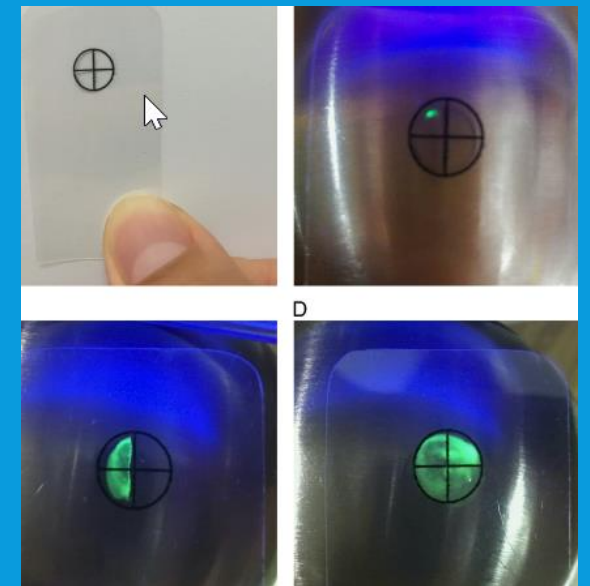


MEASUREMENT: FLUORESCENT ENVIRONMENTAL MARKING:

- Fluorescent marking is straightforward to implement
- Results are not difficult to interpret
- Acts as an excellent educational and training tool, and identifies surfaces or items that are not cleaned
- Commercial and in-house developed auditing processes
- Some of the commercial systems have methods for tracking and analyzing results

MEASUREMENT: FLUORESCENT ENVIRONMENTAL MARKING:

- Interobserver variability
- In-house application can also have further variability in application
- Requires a trained auditor and standardized tool for measurement
- Some surfaces make it difficult to remove the fluorescent agent
- Marker composition (gel, oil versus alcohol based, powder) can impact the result



MEASUREMENT: ENVIRONMENTAL CULTURES

- Culturing is relatively easy to perform
- Requires laboratory resources and expertise
- There is no accepted standard to interpret the results
- Delay in finalizing results
- Not useful for on-going monitoring of environmental cleaning though may be useful in an outbreak situation



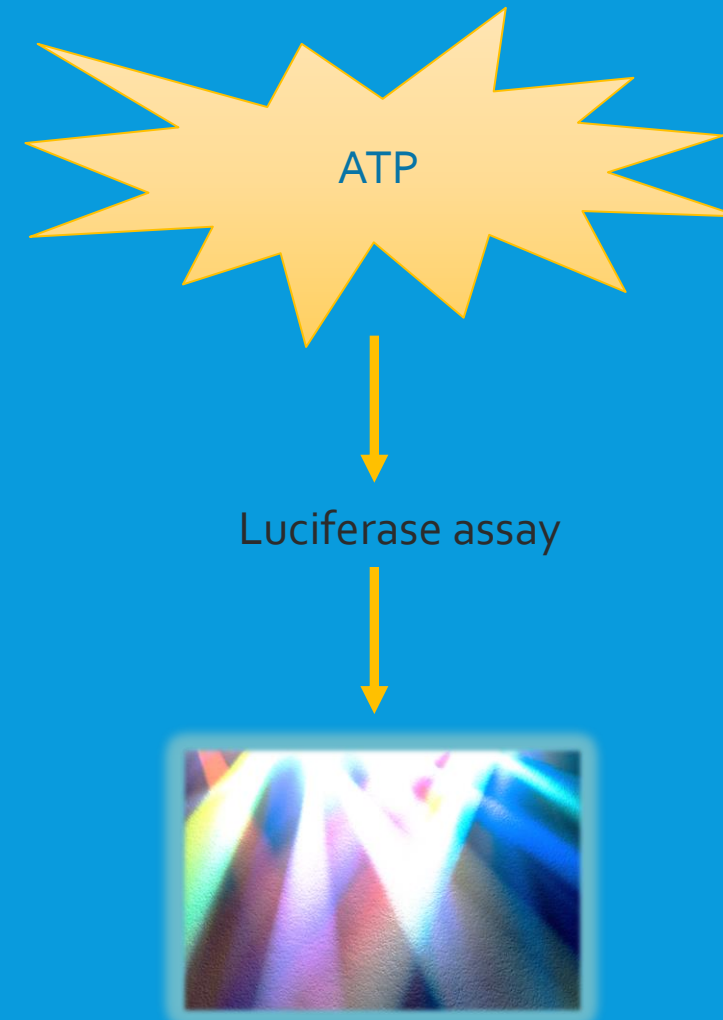
MEASUREMENT: ADENOSINE TRIPHOSPHATE(ATP) BIOLUMINESCENCE

- ATP found in all organic matter
- ATP has been used in the food industry for more than thirty years
- A study was conducted by the National Health Service (2007) reported ATP could be used effectively for EVS education
- It is now a common tool for environmental auditing and education
- A surrogate marker for microbial contamination



MEASUREMENT: ATP BIOLUMINESCENCE

- The measurement of ATP using a luciferase assay and luminometer
- A swab is used to sample a standardized surface area which is then analyzed using a portable handheld luminometer
- The total amount of ATP, both microbial and non-microbial, is quantified and expressed as relative light units (RLU)
- Low readings are typically associated with low colony counts
- Very high readings may represent either a viable bioburden, organic debris including dead bacteria or a combination of both



MEASUREMENT: ATP BIOLUMINESCENCE

- Easy implementation and training
- Provides a quantitative result
- Visual reading to the user
- An effective tool for quick and direct feedback
- Results are available immediately allowing for immediate response to failed rooms
- Practical for monitoring trends within a facility

MEASUREMENT: ATP BIOLUMINESCENCE

- Not a direct measure of microbial contamination
- Does not assess adequacy of cleaning of all surfaces
- Some disinfectants and materials may interfere with the test results
- No standardized benchmark or “cut off”
- Read out scales and sensitivity varies among commercially available systems, and therefore not comparable across systems

ETHNOGRAPHIC METHODS

BMJ Open Ethnographic study using Normalization Process Theory to understand the implementation process of infection prevention and control guidelines in Ireland

Heloise Agrell,¹ Fiona Barry,² Aileen Burton,¹ Sile Creedon,¹ Jonathan Drennan,¹ Dinah Gould,³ Carl R May,⁴ MP Smiddy,² Michael Murphy,¹ Siobhan Murphy,¹ Eileen Savage,¹ Teresa Wills,¹ Josephine Hegarty¹

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Engaging Direct Care Providers in Improving Infection Prevention and Control Practices Using Participatory Visual Methods

Chantal Backman, PhD, MHA, RN;
Natalie Bruce, MScN, RN, CIC;
Patricia Marck, PhD, RN; Saskia Vanderloo, MSc

American Journal of Infection Control 45 (2017) 1058-63



Major Article

Implementation in the midst of complexity: Using ethnography to study health care-associated infection prevention and control

Mary Jo Knobloch PhD, MPH ^{a,b,*}, Kevin V. Thomas ^c, Erin Patterson PhD ^{a,b}, Michele L. Zimbric BS ^a, Jackson Musuuza MD, PhD ^{a,b}, Nasia Safdar MD, PhD ^{a,b}

^a Division of Infectious Disease, University of Wisconsin School of Medicine and Public Health, University of Wisconsin-Madison, Madison, WI

^b William S. Middleton Memorial Veterans Hospital, Madison, WI

^c Washington University, St. Louis, MO



MOBILE EQUIPMENT

- Portable equipment such as workstations on wheels (WOWs) are a potential source of transmission when not cleaned properly
- Auditing cleaning and disinfection is difficult
- This study implemented a “disinfection tracking system” designed to automatically capture and record disinfection and provide visual feedback to the user
- More likely to clean the WOWs when visual feedback was provided



Contents lists available at [ScienceDirect](#)

American Journal of Infection Control

journal homepage: www.ajicjournal.org



Major Article

Effect of a “feedback prompt” from a disinfection tracking system on portable medical equipment disinfection

Patrick Crowley DO^a, Piyali Chatterjee MS, PhD^b, John David Coppin MPH^b, Hosoon Choi PhD^b, Marjory Williams PhD, RN^b, Julie Ann Martel BS^b, Mark Stibich PhD^c, Sarah Simmons DrPH^c, Deborah Passey PhD^d, Yonhui Allton MHA^b, Chetan Jinadatha MD, MPH^{b,*}

^a Baylor Scott and White Memorial Hospital, Temple, TX, USA

^b Central Texas Veterans Health Care System, Temple, TX, USA

^c Xenex Disinfection Services, San Antonio, TX, USA

^d University of Utah, Salt Lake City, UT, USA





American Journal of Infection Control 42 (2014) 702-7



ELSEVIER

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Major article

Evaluating and operationalizing an environmental auditing program: A pilot study

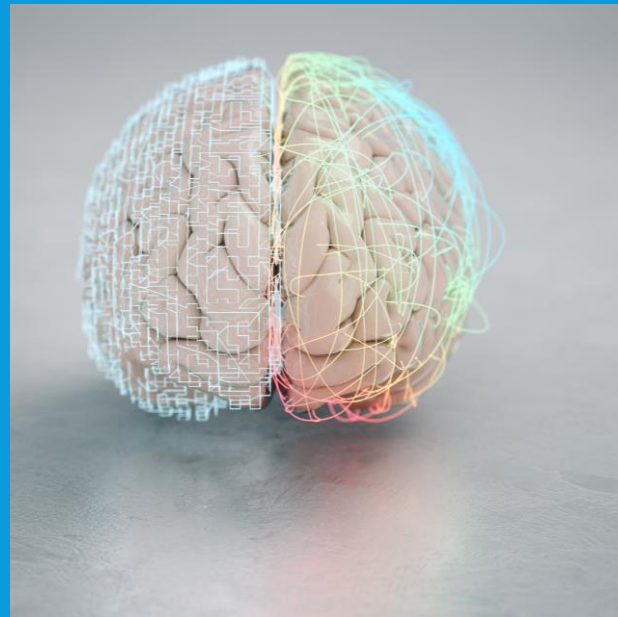
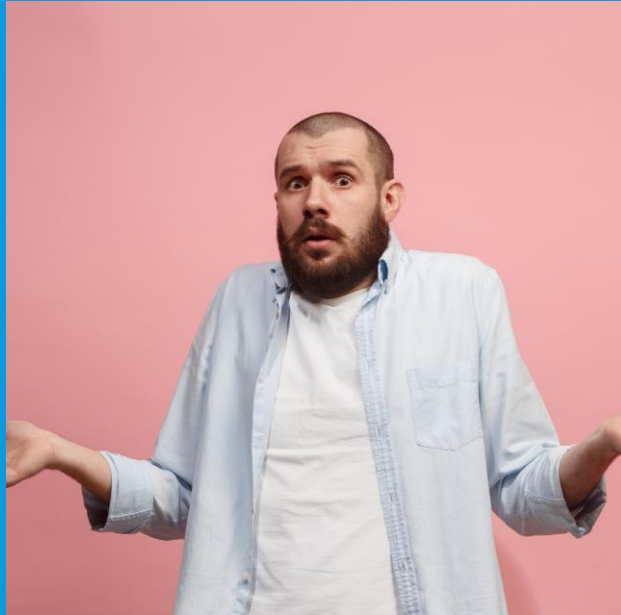
Laura Gordon BA, Natalie Bruce MScN, CIC*, Kathryn N. Suh MD, FRCPC, MSc, CIC, Virginia Roth MD, MBA, FRCPC

The Ottawa Hospital, Ottawa, Ontario, Canada



TEST AND TRIAL FOR FIT AND PERFORMANCE

MEANINGFUL FEEDBACK



MEANINGFUL FEEDBACK -4-STEP FORMULA



MICRO-YES



DATA POINT



IMPACT STATEMENT



WRAP THE MESSAGE
WITH A QUESTION

MEANINGFUL FEEDBACK -FEEDFORWARD

- Traditional feedback not as effective as once thought
- In the last decade the literature highlights the limitations of the traditional feedback methods and introduces the concept **feedforward** as a replacement
- Draws on the positive psychology movement focusing on positive subjective experiences
- Emphasis on the individual and their perspective
- Start with asking to identify occasions of successful performance
- Manager/supervisor shares the impact of the employees success
- The employee is asked to identify gaps between their goals and the present situation to inspire motivation

MEANINGFUL FEEDBACK - FEEDFORWARD

Traditional Feedback	Feedforward
Focus on the past	Focus on the future
Destructive	Creative
Results	Innovation
Mistakes	opportunities
Achievements	Challenges

MEANINGFUL FEEDBACK -FEEDFORWARD

- Feedforward approach would be challenged by some
- No consensus on the implementation (fully versus blended approach)
- Further discourse is needed on how to communicate at risk behaviour







SUMMARY

- Auditing environmental cleaning is an important and necessary activity for patient safety
- There are several methods for auditing and it is important to assess what methods fit your facility/environment.
- Multiple auditing methods are recommended, one observational and measurement audit at a minimum
- Effective audit feedback is important to inspire others.
- It is important to continuously analyze our own performance and ensure it is done in an positive and brain friendly way.

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