



STRENGTH & VULNERABILITIES ASSESSMENT

Results and Recommendations for: DCS Global Enterprise

Report Date: 04-December-2019

CONFIDENTIAL



DCS
Global Enterprise

EXECUTIVE SUMMARY

DCS Global Enterprise is dedicated to related XYZ mission, vision, strategy, or company value. To support this objective, DCS Global Enterprise and OptiSolve are working together to provide a cleaning audit and surface assessments. The results, summarized in this report, help validate the effectiveness of current cleaning investments, benchmark current practices, and positively impact health and safety, wellness, productivity, training, infection prevention, spread of pathogens, risk mitigation, absenteeism where opportunities exist.

A SAVI was conducted on Wednesday, August 14th, 2019.

The recent assessment at Company ABC demonstrated a well, adequately, average, poorly maintained facility. Overall, good, average, poor cleaning results were observed based on multiple methodologies (ATP, Pathfinder).

Opportunities for improvement include attention to the following areas:

- Select high touch surfaces in rooms including XYZ.
- Common areas such as XYZ.
- Mobile units that move from common area to common area or from room to room including but not limited to XYZ.
- Of particular note were surfaces such as XYZ.

AND/OR

From our findings detailed in this report, ongoing focus should be on _____.

AND/OR

From our findings detailed in this report, key recommendations include _____.

Routine site assessments would facilitate continuous improvement as well as assist in training and ensuring healthy spaces for staff, patients, residents, visitors, guests, students, children, players, customers.

TABLE OF CONTENTS

Introduction

Scope of Work

Results

Recommendations

Resources

WHY AUDIT?

- Cleaning is an essential part of reducing healthcare acquired infections in all environments.
- Just because it looks clean, doesn't mean it is clean.
- Objective measurement that can be used as a quality indicator.
- If it can't be measured it can't be improved.
- Feedback of results will occur.
- Transparent process.
- Highlights strengths – credit for jobs 'well done'.
- Identifies opportunities for process improvements.
- Identifies weaknesses and/or threats in buildings/equipment.
- Ensures consistency between cleaning personnel, employees, and locations.

Source: Public Health Ontario, Environmental Cleaning Toolkit Module 6 Audits

WHY OPTISOLVE PATHFINDER?

VISUALIZE CLEAN

Picture it.

Using smart technology and proprietary analysis, OptiSolve Pathfinder captures macroscopic surface images and generates contamination density maps.

It enables us to illuminate the 'story' of what's happening on a surface, so we can collaborate on best practices.

As the saying goes, "a picture is worth a thousand words".

VALIDATE SYSTEMS

Process: OptiSolve is a collaborative approach, providing data and enabling studies for your whole team to establish better practices and help create cleaner environments.

Products: Data helps us to understand if the right tools and products are in place to improve processes and solve problems.

People: Pathfinder is being used to validate staff intuition, support training, knowledge transfer, and reduce errors.

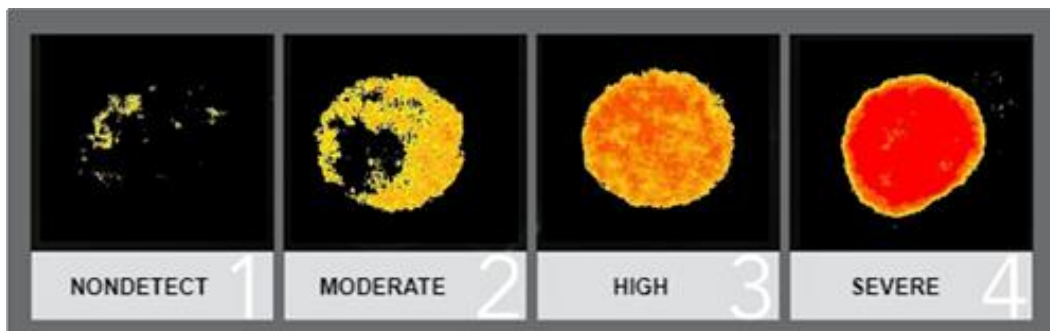
VERIFY VALUE

Prevention

Prevention is key to controlling infection issues and related cost. OptiSolve Pathfinder provides infection control practitioners with an additional tool to aid in the quality improvement cycle. Teams can now use spatially specific contamination data to corroborate existing practices and ultimately see their way to better cleaning.

Surface Assessment – Correlation of Organic Feedback

As a visual tool, Pathfinder provides the advantage of spatial specificity to identify the location of contamination in terms of the local surface topography.



SCOPE OF WORK

OBJECTIVES

- Confirm that current cleaning processes on high-touch surface areas are performing as expected and/or identify opportunities where there may be risks.
- To complete a vulnerability assessment with DCS Global Enterprise, Company ABC - including verification and continuous improvement of cleaning processes and procedures - ultimately reducing clinical risks and creating a safer and healthier environment.
- Gain feedback for expanding the OptiSolve service and Pathfinder technology for ongoing use and continuous improvements at DCS Global Enterprise.

DELIVERABLES

- Report - provide evidence-based feedback via multiple test methodologies as to where there may be risks of pathogens.
- Recommendations – provide insights on strengths and opportunities from SAVI.
- Presentation - OptiSolve will review the results and recommendations with DCS Global Enterprise representatives. The OptiSolve team will also review what could be included in any future activities in order to validate recommendations and also improve cleaning effectiveness.

AREAS ASSESSED

- Meeting room (803)
- Reception
- Bathroom

TEST METHODOLOGIES

- ATP
- Pathfinder

SUMMARY OF RESULTS

Location	Pathfinder	ATP	TPC	General Risk
Reception - Call bell	Severe	21	---	Intermediate
Bathroom - Stall, latch	Severe	3641	---	High
Reception - Light switch	Severe	31	---	High
Bathroom - Door handle	Severe	210	---	High
Meeting room (803) - Door handle	Severe	1250	---	High
Meeting room (803) - TV remote(s)	High-Severe	210	---	High
Meeting room (803) - Chair, armrest	High-Severe	1021	---	High
Reception - counter-top, hand sanitizer	---	---	---	N/A

NOTES:

- Pathfinder = Surface imaging technology
- TPC = Total Plate Count, Environmental culture test of colony forming units (CFU/swab)
- ATP = Adenosine triphosphate bioluminescence.
Measured in RLU = relative light units.
For the purposes of this report the following limits RLU will be used:

<300	Clean
300-999	Low-Level
1000-2000	Moderate
>2000	High-Level
- Risk is based on the guidelines from Provincial Infectious Diseases Advisory Committee (PIDAC), 2018

RECEPTION: CALL BELL

Contextual Image



Pathfinder Image



OBSERVATIONS

- Pathfinder: Severe
- ATP: 21

RECOMMENDATIONS / NOTES

- Although ATP results suggest that this surface has virtually no contamination, Pathfinder imaging indicates areas of severe-level contamination on this surface.
- Pathfinder imaging indicates areas of severe level contamination on this surface.
- Review the cleaning process and frequency for this surface and highlight as a point of focus for future audits.

BATHROOM: STALL, LATCH

Contextual Image



Pathfinder Image



OBSERVATIONS

- Pathfinder: Severe
- ATP: 3641

RECOMMENDATIONS / NOTES

- Pathfinder imaging indicates areas of severe level contamination on this surface.
- ATP results indicate that this surface has a high-level of contamination, which suggests that the surface has not been adequately cleaned.

RECEPTION: LIGHT SWITCH

Contextual Image



Pathfinder Image



OBSERVATIONS

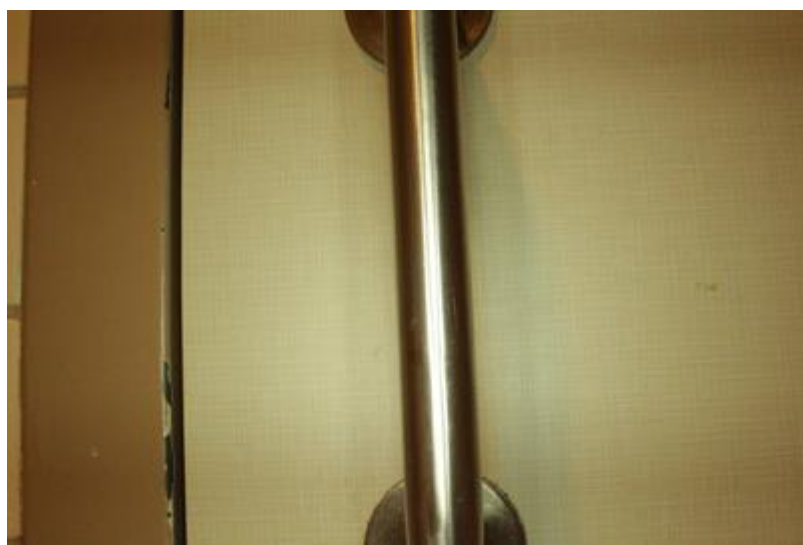
- Pathfinder: Severe
- ATP: 31

RECOMMENDATIONS / NOTES

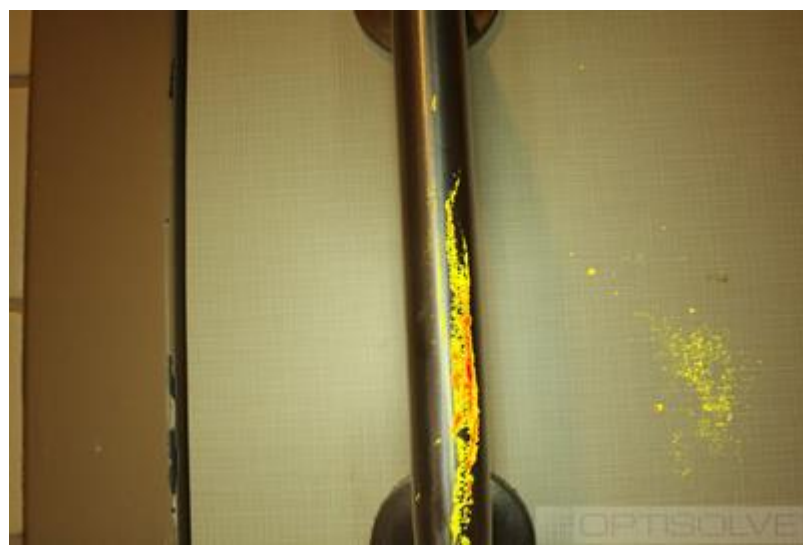
- Although ATP results suggest that this surface has virtually no contamination, Pathfinder imaging indicates areas of severe-level contamination on this surface.
- Pathfinder imaging indicates areas of severe level contamination on this surface.

BATHROOM: DOOR HANDLE

Contextual Image



Pathfinder Image



OBSERVATIONS

- Pathfinder: Severe
- ATP: 210

RECOMMENDATIONS / NOTES

- Although ATP results suggest that this surface has virtually no contamination, Pathfinder imaging indicates areas of severe-level contamination on this surface.
- Pathfinder imaging indicates areas of severe level contamination on this surface.
- This surface is located in a bathroom, therefore a high probability of contamination with bodily fluids exists.

MEETING ROOM (803): DOOR HANDLE

Contextual Image



Pathfinder Image



OBSERVATIONS

- Pathfinder: Severe
- ATP: 1250

RECOMMENDATIONS / NOTES

- Pathfinder imaging indicates areas of severe level contamination on this surface.
- ATP results also suggest that this surface has contamination above acceptable levels.
- High-touch surfaces require more frequent cleaning and disinfection.

MEETING ROOM (803): TV REMOTE(S)

Contextual Image



Pathfinder Image



OBSERVATIONS

- Pathfinder: High-Severe
- ATP: 210

RECOMMENDATIONS / NOTES

- Although ATP results suggest that this surface has virtually no contamination, Pathfinder imaging indicates areas of high-severe-level contamination on this surface.
- Pathfinder imaging indicates a high to severe level of contamination on this surface.
- Review the cleaning process and frequency for this surface and highlight as a point of focus for future audits.

MEETING ROOM (803): CHAIR, ARMREST

Contextual Image



Pathfinder Image



OBSERVATIONS

- Pathfinder: High-Severe
- ATP: 1021

RECOMMENDATIONS / NOTES

- Pathfinder imaging indicates a high to severe level of contamination on this surface.
- ATP results also suggest that this surface has contamination above acceptable levels.
- Review the cleaning process and frequency for this surface and highlight as a point of focus for future audits.

RECEPTION: COUNTER-TOP, HAND SANTIZER

Contextual Image



RECOMMENDATIONS / NOTES

- Hand Sanitizer bottle was empty.

NEXT STEPS

1. Pathfinder images provide useful data to assist the DCS Global Enterprise team with training and infection prevention procedures to help make the facility cleaner and safer. It will be useful to share with managers and appropriate staff.
2. DCS Global Enterprise and OptiSolve to discuss the report findings and related support for potential internal training and/or education sessions.
3. Additional vulnerability assessments will be completed at various DCS Global Enterprise locations and learning will be shared.
4. OR
5. OptiSolve to propose ongoing continuing engagement activities for DCS Global Enterprise to review and approve, based on a continuous improvement objective.
6. Overall, Company ABC should be commended for their proactive and preventative approach towards facility maintenance.

The Bottom Line:

An ongoing engagement with OptiSolve will support your facility in providing a clean and safe environment.

GLOSSARY

Audit: A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements, are implemented effectively and are suitable to achieve objectives.

ATP: Adenosine triphosphate (ATP) is a chemical substance that is present in all living cells, including bacteria and viruses. Detection of this substance would indicate that organic material is present on an object or surface.

Cleaning: The physical removal of foreign material (e.g., dust, soil) and organic material (e.g., blood, secretions, excretions, microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action.

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Medical equipment/devices must be cleaned thoroughly before effective disinfection can take place. See also, Disinfectant.

Hand Hygiene: A general term referring to any action of hand cleaning. Hand hygiene relates to the removal of visible soil and removal or killing of transient microorganisms from the hands. Hand hygiene may be accomplished using soap and running water or an alcohol-based hand rub (ABHR). Hand hygiene includes surgical hand antisepsis.

Hawthorne Effect: A short-term improvement caused by observing staff performance.

High-Touch Surfaces: High-touch surfaces are those that have frequent contact with hands. Examples include doorknobs, call bells, bedrails, light switches, wall areas around the toilet and edges of privacy curtains.

Hospital-Grade Disinfectant: A low-level disinfectant that has a drug identification number (DIN) from Health Canada indicating its approval for use in Canadian hospitals.

Infection Prevention and Control (IPAC): Evidence-based practices and procedures that, when applied consistently in health care settings, can prevent or reduce the risk of infection in clients/patients/residents, health care providers and visitors.

Low-Level Disinfection (LLD): Level of disinfection required when processing non-invasive medical equipment (i.e., non-critical equipment) and some environmental surfaces. Equipment and surfaces must be thoroughly cleaned prior to low-level disinfection.

Low-Touch Surfaces: Surfaces that have minimal contact with hands. Examples include walls, ceilings, mirrors and window sills.

Personal Protective Equipment (PPE): Clothing or equipment worn by staff for protection against hazards.

PIDAC: Provincial Infectious Diseases Advisory Committee.

Reservoir: Any person, animal, substance or environmental surface in or on which an infectious agent survives or multiplies, posing a risk for infection.

Workplace Hazardous Materials Information System (WHMIS): WHMIS is Canada's national hazard communication standard. The key elements of the system are cautionary labelling of containers of WHMIS 'controlled products the provision of Material Safety Data Sheets (MSDSs) and staff education and training programs.

Source: PIDAC 2012, Best Practices for Environmental Cleaning for Prevention and Control of Infections

ATP BIOLUMINESCENCE

ATP: Adenosine triphosphate (ATP) is a chemical substance that is present in all living cells, including bacteria and viruses. Detection of this substance would indicate that organic material is present on an object or surface. ATP detection involves the use of an enzyme and substrate from the firefly which is combined with ATP picked up from the environment on a swab. The resulting bioluminescence or output of light may be measured using a sensitive luminometer. Results are expressed as Relative Light Units (RLU).

ATP bioluminescence is a quantitative method rather than a qualitative method of detection, which reflects the amount of bioburden present rather than the type of bioburden present. ATP testing can be used to provide instant feedback on surface cleanliness, demonstrating deficiencies in cleaning protocols and techniques to staff. It does not necessarily indicate true infection risk for patients. ATP may also be used to evaluate novel cleaning methods such as steam cleaning and microfiber cloths.

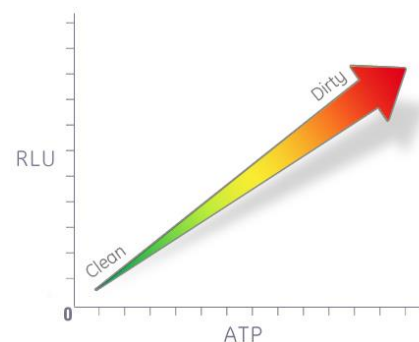
In 2010, Dancer et al^{195, 196} found that monitoring hospital environments using ATP bioluminescence had a sensitivity and specificity of only 57%, making this an unreliable tool for routine monitoring purposes at the present time. ATP can also be confounded by the presence of bleach, microfiber products and manufactured plastics used in cleaning. ¹⁹⁶Introducing ATP monitoring into hospitals should begin as part of a systematic program that includes data collection, audit and feedback for both infection control and ES staff.

Source: www.hygiene.com/rlulimits-hc.html

ATP is measured in RLU's (relative light units).

ATP systems use relative light units (RLU) as the unit of measure for adenosine triphosphate (ATP). Though the ratio of RLU to ATP varies per manufacturer, the greater the ATP, the higher the RLU. The cutoff scores for acceptable or unacceptable RLU scores are called thresholds, or limits. RLU limits enable users to categorize RLU test results as Pass, Caution, or Fail.

Recommended RLU limits
Rapid Cleaning Verification www.hygiene.com



Source: PIDAC 2018, *Best Practices for Environmental Cleaning for Prevention and Control of Infections*

SCORECARD AND TRENDS

Note: This section is currently under construction.

Please ask us about our upcoming scorecard and trends tracking capability that will help you to start “seeing your way to better cleaning”.

NOROVIRUS

How Does the Norovirus Spread?

Norovirus is found in the stool and sometimes in the vomit of ill persons. People can become infected with the virus in several ways:

- Direct contact (e.g. shaking hands) with another person who is infected
- Touching surfaces or objects contaminated with the virus (e.g. doorknob, hand or stair railings, etc.) and then touching your mouth or eyes
- Eating food or drinking beverages that are contaminated by an infected person
- Eating food such as shellfish contaminated at the source
- Airborne transmission has been suggested to explain its rapid spread in settings like schools and day cares

Those infected with Norovirus can spread it once they feel ill and for up to two days after the symptoms (usually diarrhea) stop but people can carry the virus for up to two weeks longer.

How Can I Reduce My Risk of Norovirus Infection?

- Keep your hands clean. Wash your hands often with soap and warm water for at least 15 seconds after using the toilet, diapering a child and before preparing or eating food. This is the best way of reducing the risk of getting infected with Norovirus.
- If soap and water are not available, and if hands are not visibly soiled, use an alcohol-based hand sanitizer with 70% – 90% alcohol.
- Do not prepare food for others if you have symptoms of vomiting or diarrhea.
- Thoroughly and frequently clean and disinfect environmental surfaces and equipment with a chlorine bleach disinfectant, especially in areas that are touched often (e.g., telephones, door handles, gym equipment, bed side rails, etc.). A chlorine bleach solution of one-part household bleach to 50 parts water can be made from two teaspoons of household bleach mixed with two cups of water.
- Anyone who is ill with diarrhea or vomiting should stay home until well for at least 48 hours (especially for those who work with food, the elderly or at a hospital).

Source: Toronto Public Health, July 2012

www.toronto.ca/community-people/health-wellness-care/diseases-medications-vaccines/norovirus-fact-sheet/

CONTACT

If there are any further questions or concerns, please feel contact us and we will be happy to discuss. We thank you for your collaboration on this work and we appreciate the opportunity to work with you.

OptiSolve®

1.833.765.8300

2060 Fisher Dr, Peterborough, ON K9J 6X6

www.optisolve.net



Opti Admin
EHS Specialist
OptiSolve



Randy Burke
CEO
DCS Global Enterprise

Copyright © 2018 - Charlotte Products Ltd. DBA OptiSolve®

The OptiSolve SAVI® surface assessment visit and imaging summary report is limited in scope and is intended only to provide insights that could potentially improve facility cleaning practices. The facility assessment and summary report is not intended in any way to replace, modify or supersede the laws, regulations, guidelines and best practices of all applicable health and environmental regulatory bodies including without limitation those of Health Canada, the Environmental Protection Agency and local, provincial and state public health units. The recipient of the report acknowledges that it is its sole responsibility to comply with all such laws, regulations, guidelines and best practices. While the information in the report is believed to be correct, Charlotte Products Ltd. makes no representations as to its accuracy, and assumes no liability for any loss occurring by reason of reliance on this report or otherwise. All OptiSolve Pathfinder® images are the exclusive property of Charlotte Products Ltd. and are protected by copyright laws.