

Indigo-Clean Automatic, Continuous Environmental Disinfection Integrated into CHRDL's New Endoscopy Unit

Cutting-Edge Technology Kills Harmful Bacteria



Project: Centre Hospitalier Régional de Lanaudière (CHRDL) Endoscopy Unit, Wing F
 Location: Joliette, Quebec, Canada
 Specifier: GBi Experts-Conseils, Inc.

"The addition of an external agent that operates continuously, using cutting-edge technology, becomes an asset to improve the effectiveness of disinfection in more sensitive places."

– Grégoire Tremblay, Senior Engineering Technician, GBi Experts-Conseils, Inc.



Project Summary: CHRDL hospital installed Indigo-Clean Visible Light Disinfection luminaires in their new 1,000 meter-square (10,764 sq ft) endoscopy department.

Challenge: Despite the current protocols and procedures established for disinfection in health facilities, staff were concerned that the inevitability of human error would limit effectiveness. CHRDL wanted to add an extra layer of disinfection to help with especially hard-to-reach areas.

Solution: Indigo-Clean M4SEDIC14 luminaires in all six endoscopy rooms and adjacent support areas, including a medical device reprocessing unit.

CHRDL One of First Canadian Hospitals to Adopt Indigo-Clean

Although significant progress has been made in reducing HAIs, the Centers for Disease Control state that there is still serious cause for concern: "On any given day, about one in 31 hospital patients has at least one healthcare-associated infection."¹ Improved disinfection of critical care areas saves lives. That's why when GBi Experts-Conseils, Inc. (GBi), an engineering firm with several offices throughout Quebec, heard about Indigo-Clean Visible Light Disinfection at a conference sponsored by the Illuminating Engineering Society (IES), they wanted to know more. They turned to lighting agent Eclairage Hitech, who did an "exhaustive" presentation at the GBi offices. GBi, in turn, presented the information to Centre Hospitalier Régional de Lanaudière (CHRDL) in Joliette, Quebec.

CHRDL installed Indigo-Clean Visible Light Disinfection in each of six endoscopy rooms as well as supporting areas in their new 1,000 meter-square endoscopy unit. Indigo-Clean uses a safe, 405nm wavelength of visible light to disinfect the air, and soft and hard surfaces, 24/7. The dual-mode lights are controlled automatically: when the room is occupied, they produce a visually comfortable blend of white and 405nm light. When the room is unoccupied, the lights switch to 405nm Indigo-only mode for maximum disinfection. Both modes are safe for occupants, and proven to kill dangerous pathogens, including staph² such as MRSA³. A soon-to-be-released study also demonstrates that Indigo-Clean lighting can reduce high-risk bacterial transmission events involving coagulase-negative

staphylococci and may reduce transmission of *S. aureus*; the number one cause of surgical site infections.

"Despite the current protocols and procedures established for disinfection in health facilities, the human factor and the techniques used limit the effectiveness of the application of the procedures. The addition of an external agent that operates continuously using cutting-edge technology becomes an asset to improve the effectiveness of disinfection in more sensitive places," said Grégoire Tremblay, Senior Engineering Technician at GBi. Tremblay continued, "The clinical team of the CHRDL endoscopy department has shown great enthusiasm for this technology." Indigo-Clean and GBi simplified the new technology for CHRDL staff by programming the lighting controls "to allow them to use the lighting in disinfection mode optimally without interfering with normal operation".

The engineering firm was also impressed by the disinfection data that Indigo-Clean representatives provided, and plans to include the technology in future projects, where appropriate.

Indigo-Clean Luminaire Features:

- Available sizes: 1' x 4', 2' x 2' and 2' x 4'
- One-piece sealed housing; smooth exterior doorframe and lens for infection control, resulting in simplified cleaning protocols
- Diffused high-efficiency lens for reduced glare
- Contribute to the ambient light levels in the room



M4SEDC

Benefits to CHRDL

- Reduction of antibiotic-resistant bacteria in healthcare settings
- Increased level of disinfection in critical care areas
- Technology integrated into overhead lighting, making it easy for staff to deploy
- Sealed, smooth housing with optional antibacterial finish is easy to clean
- Continuous environmental disinfection kills bacteria missed during terminal cleaning

1. <https://www.cdc.gov/hai/data/index.html>

2. Maclean M., S.J. MacGregor, J.G. Anderson, G.A. Woolsey, J.E. Coia, K. Hamilton, I. Taggart, S.B. Watson, B. Thakker & G. Gettinby (2010). Environmental Decontamination of a Hospital Isolation Room using High Intensity Narrow-Spectrum Light. *Journal of Hospital Infection*, 76(3); 247-251. DOI: 10.1016/j.jhin.2010.07.010

3. Rutala W., Kanamori H., Gergen M., Sickbert-Bennett E., Sexton D., Anderson D., Weber D.J., Antimicrobial Activity of a Continuous Visible Light Disinfection System, *ID Week 201*

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