



## CASE STUDY

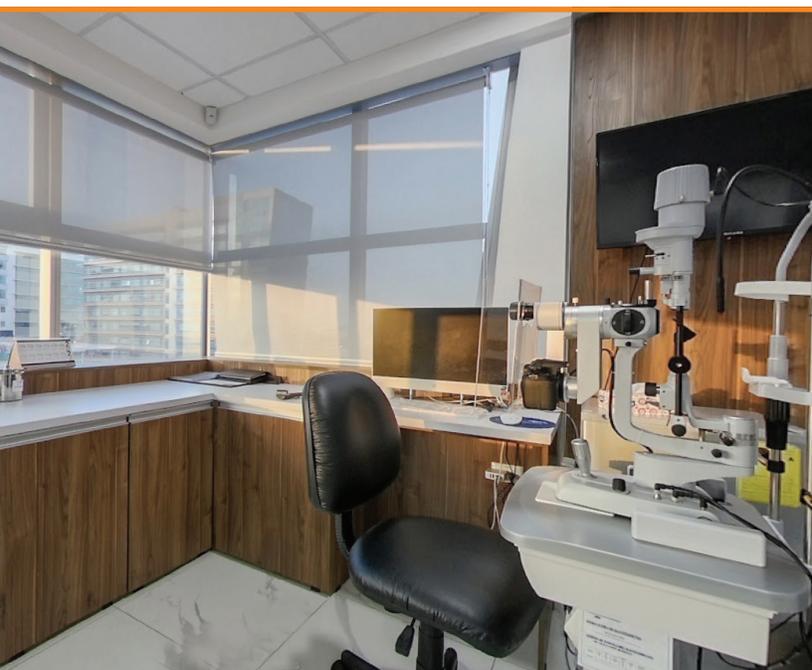
# Advancing Patient Safety in the Operating Room with Next-Generation Far-UVC

Visium reduces environmental bioburden in a high-activity surgical environment

## OVERVIEW

Instituto de la Visión is a premier hospital network focused on ophthalmic care and advanced outpatient surgical procedures in Ecuador. The institute is recognized for its state-of-the-art surgical suites and serves as a leading ophthalmologic care network in Ecuador. With high patient volumes and rigorous standards of care, maintaining a clean, low-risk operating room environment is a critical priority.

To address the ongoing challenge of environmental contamination and antibiotic-resistant organisms, Instituto de la Visión sought an additional environmental intervention to complement its existing manual cleaning and infection prevention protocols. The goal was to enhance operating room safety without increasing downtime or disrupting surgical schedules.





## THE CHALLENGE

Operating rooms face a continuous risk of contamination due to back-to-back procedures, limited turnover time, and frequent staff movement. Hospital floors, in particular, act as significant reservoirs for healthcare-associated pathogens that can be disturbed by foot traffic and recirculated into the air. These bioaerosols may remain suspended for extended periods before settling on surfaces, where microorganisms accumulate between routine cleaning cycles.

Reducing environmental bioburden is essential to lowering risk for patients and staff, but solutions must integrate seamlessly into daily operations without interfering with clinical workflow or case throughput.

## OUR SOLUTION

### Visium Far-UVC

Instituto de la Visión installed six Visium Far-UVC fixtures in one operating room, covering approximately 450 square feet. The recessed fixtures integrate seamlessly into the ceiling and are used during unoccupied periods, including overnight, to reduce accumulated airborne and surface microorganisms as an adjunct to standard cleaning protocols

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#### No Added Downtime

Operates during unoccupied hours without impacting surgical operations

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#### Infrastructure-Based Intervention

Ceiling-integrated solution requiring no manual deployment

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#### Measurable Environmental Impact

Documented reductions in microbial burden under real clinical conditions

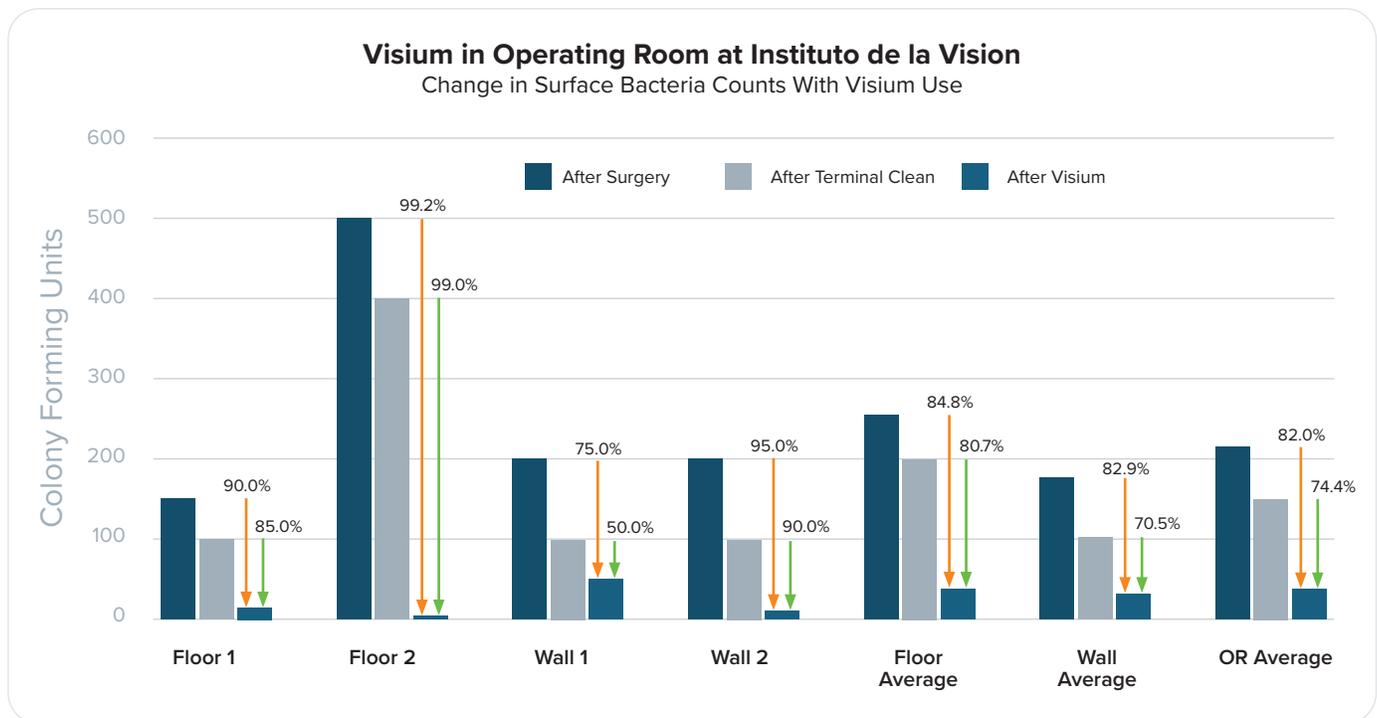


## Independent Test Results

Independent testing conducted by Microbiología Mención Biomédica evaluated environmental bioburden across three measured conditions in the operating room:

- After a full day of surgical procedures (After Surgery)
- After terminal cleaning with a quaternary ammonium disinfectant (After Terminal Clean)
- After overnight Visium Far-UVC use (After Visium)

- ✓ Up to 99 percent reduction in colony-forming units (CFUs)
- ✓ An average 82 percent reduction in CFUs following overnight Visium use
- ✓ An average 74 percent improvement compared to quaternary ammonium terminal cleaning methods alone



## Outcome

Measured data demonstrate that environmental bioburden increased following surgical activity and was reduced after terminal cleaning. Following overnight Visium use, CFU levels were further reduced, in several cases to levels comparable to or lower than terminal cleaning alone.

Visium provides an added layer of environmental control against surface contamination in the operating room. When used alongside standard terminal cleaning protocols, Visium lowers the baseline level of environmental contamination prior to the next surgical day.

- ✓ Independent analysis confirms consistent bacterial reduction with Visium
- ✓ Visium reduced CFUs by up to 99 percent under measured conditions
- ✓ Overnight use lowered environmental contamination beyond post-surgical levels
- ✓ Significantly reduced healthcare-associated pathogens on floors, lowering the potential for secondary transfer within the clinical environment

## Conclusion

Instituto de la Visión is committed to maintaining the highest standards of care in its operating rooms. To support this mission, the institute has adopted Visium Far-UVC as an adjunct environmental control strategy, used during unoccupied hours to enhance existing infection prevention protocols.

By integrating Visium Far-UVC without increasing operating room downtime or disrupting clinical workflows, Instituto de la Visión strengthens its infection control infrastructure while continuing to deliver high-quality surgical care.

**“Since incorporating Visium Far-UVC technology into our facility, we feel we’ve added an important extra layer to our infection control strategy. It has been easy to integrate into our workflow during unoccupied hours, and it gives our team greater confidence in the environmental safety of our surgical spaces.”**

**Dr. Roberto Alcivar**  
 President  
 Instituto de la Visión

