

Study on Effectiveness of UV Light Disinfection

A RESEARCH REVIEW

For over a century, UV has been used for disinfection purposes. But to determine just how effective UV light disinfection is, it's important that true, scientific studies are performed.

In 2016, a group of doctors and scientists set out to do just that. In particular, they wanted to see what kind of power UV-C can provide in a hospital setting. Of top priority, they wanted to examine its potential effectiveness in reducing the bacteria methicillin-resistant staphylococcus aureus (MRSA), vancomycin-resistant enterococcus (VRE), and clostridium difficile colitis (C. Diff) – all of which are known to cause healthcare-associated infections.

The study was conducted at Vancouver General Hospital, where the sample group included over 360 surfaces (tables, handrails, bed adjustment controls, etc.) across 60 patient rooms – all of which had been previously occupied by patients with MRSA, VRE, and C. Diff. The method included both a manual, terminal cleaning and UV light disinfection, with culture readings recorded before and after each instance.



First, the housekeeping staff performed their standard manual cleaning per hospital protocol, using accelerated hydrogen peroxide for surfaces and a neutral detergent for floors. Then, following measurement of the remaining pathogens, two UV light disinfection transmitters were brought into the rooms. Upon completion of their cycle, another measurement was taken, which showed some pretty interesting results.

The Results Are In

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Prior to any cleaning or disinfection taking place, 34.4% of rooms tested positive for MRSA, 29.5% tested positive for VRE, and 31.8% were positive for C. diff. After the initial manual cleaning, there was little to no change in these numbers.

However, after receiving a dose of UV light disinfection, these numbers dropped precipitously – to 3.3% for MRSA, 4.9% for VRE, and 0% for C. diff.

In conclusion, the study determined that “manual cleaning of patient rooms is suboptimal” and that using UV light disinfection will “effectively reduce patient room contamination with MRSA, VRE, and C. diff over and above manual cleaning...”

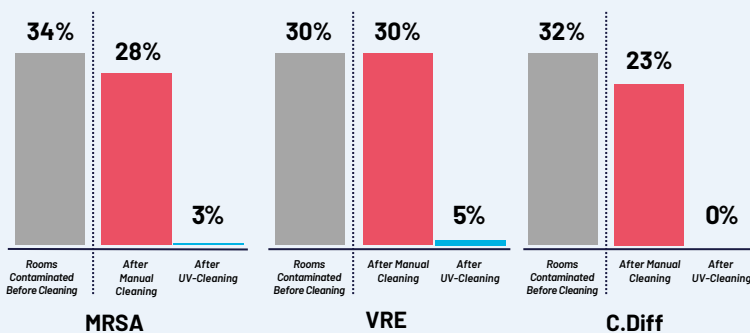
So, while it’s clear that UV light is a powerful tool for disinfection, its effectiveness is only as high as its transmitter allows. Most existing UV systems on the market are stationary, bulky, and complicated to use, thus leaving the full potential of UV light disinfection unfulfilled. But it’s for this very reason that we developed OhmniClean, our solution for an autonomous UV light disinfection robot.

OhmniClean is lightweight, compact, and easy to use. And since it’s able to drive itself, you can disinfect patient rooms, operating rooms, and even entire surgical suites with just the touch of a single button. In piloting this technology at real hospitals across the country, cleaning teams are reporting that they’ve reduced their turnover times by almost 60%.

We believe that everyone should be able to use the strength of UV-C for disinfection, and with this state-of-the-art technology, you can provide safer, healthier spaces for all.

Manual vs UV Cleaning

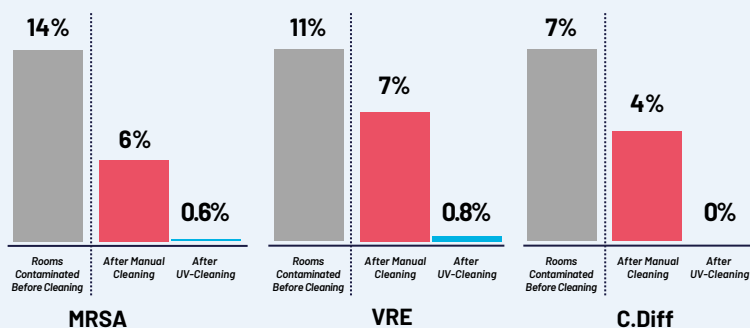
Percent of Rooms Contaminated with the Following...



As to the surfaces and high-touch points, they followed a similar trajectory, with their before-cleanings percentage of MRSA, VRE, and C. diff (13.9%, 11.4%, 7.2%, respectively) plummeting to less than 1% across the board after receiving UV light disinfection, with C. diff again being completely eradicated.

Manual vs UV Cleaning

Percent of Surfaces Contaminated with the Following...



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