Medical Xpress

Ultraviolet disinfection 97.7 percent effective in eliminating pathogens in hospital settings

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Using ultraviolet (UV) disinfection technology to reduce the risk of hospital-acquired infections eliminated up to 97.7 percent of pathogens in operating rooms (ORs), according to a study published in the *American Journal of Infection Control*.

The study examined a UV light technology platform deployed by New York-based PurpleSun that can be used for a range of disinfection applications for ORs, patient rooms and other health care settings. Unlike other disinfecting tools, which includes chemicals that can take minutes to inactivate pathogens and at times can leave bacteria on surfaces due to human and product error, PurpleSun reaches multiple surfaces in seconds with UV light. The study found that it all but eliminates human and product error in the proliferation pathogens that can contribute to the spread of pathogens that contribute to infection.

PurpleSun's focused multivactor ultraviolet (FMUV) device can be deployed to surround equipment on all sides, with foldable partitions whose light hits five different surface points and uses higher levels of UV intensity in 90-second intervals. More than 3,000.microbiological samples following 100 different surgical cases were taken in and around the ORs at three different hospitals in the New York metropolitan area. The observational study is believed to be the first to use five-point multisided sampling in testing the effect of UV disinfection technology.

"Ultraviolet light technology will not replace manual cleaning and disinfection with chemicals, but it is has a place in health care settings.

This technology can optimize environmental cleanliness, resulting in decreased pathogens that could potentially cause infection," said Donna Armellino, RN, DNP, vice president of infection prevention at Northwell Health and lead author of the study, called: "Assessment of focused multivector ultraviolet disinfection with shadowless delivery, using five-point multisided sampling of patient care equipment without manual-chemical disinfection."

Dr. Armellino says the intent of the study was to determine if UV technology reduces environmental pathogens for the purpose of making health care facilities safer and improving the patient experience.

More information: Donna Armellino et al, Assessment of focused multivector ultraviolet disinfection with shadowless delivery using 5-point multisided sampling of patient care equipment without manual-chemical disinfection, *American Journal of Infection Control* (2018). DOI: 10.1016/j.ajic.2018.09.019

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