

July 25, 2015

CDI Rates Plunge in ICU After Pulsed Xenon UV Disinfection Used to Treat Rooms

A new study published in the the American Journal of Infection Control reports that the use of pulsed xenon ultraviolet (UV) light technology enabled Westchester Medical Center in Valhalla, N.Y. to reduce hospital-acquired Clostridium difficile (C. diff) infection rates in its intensive care unit (ICU) by 70 percent. This is the fourth peer-reviewed study showing a decrease in patient infection rates as a result of a hospital's utilization of Xenex Disinfection Services' pulsed xenon UV room disinfection technology.

Xenex Germ-Zapping Robots™ use pulsed xenon Full Spectrum™ UV light to destroy viruses, bacteria and bacterial spores, including C. diff, in a five-minute disinfection cycle. Designed for speed, effectiveness and ease of use, hospital cleaning staff integrate Xenex robots into a hospital's existing operations and hospital acquired infection (HAI) reduction strategy.

According to the study "Clostridium difficile infections before and during use of ultraviolet disinfection," (Nagaraja, et al. AJIC ePrint July 2015) the hospital experienced a 70 percent decrease in hospital acquired C.diff infection rates in its adult ICU during the utilization of the Xenex pulsed xenon UV device.

C. diff is a serious intestinal infection that can cause severe diarrhea, colitis and even death. According to the CDC, C. difficile caused almost half a million infections in the United States in 2011, and 29,000 people died within 30 days of the initial diagnosis. Many hospital patients, especially those on antibiotics, are susceptible to C. diff, which can live for up to five months on surfaces in the hospital. A person with C. diff may contaminate their hospital room and bathroom, leaving C. diff spores on the walls, handles and other high-touch surfaces that can be easily transferred to the next patient or healthcare worker in that room.

"There is no doubt that pulsed xenon UV disinfection technology is effective at helping hospitals reduce HAI rates. The C. diff infection rate reduction at Westchester Medical Center is similar to what we've heard from dozens of hospitals that are using Xenex germ-zapping robots for room disinfection," says Morris Miller, CEO of Xenex. "Xenex offers the only UV disinfection technology that utilizes pulsed xenon to create germicidal UVC light and is the only UV disinfection technology shown, in peer-reviewed published studies, to be effective in reducing HAI rates. We believe so strongly in our technology that we are willing to invest in our customers' success. We recently announced a HAI Reduction Guarantee for hospitals and health systems that are looking for a proven solution to reduce their infection rates."

According to the study's authors, the hospital chose to use pulsed xenon UV instead of continuous mercury UV because of Xenex's shorter cycle time. The study states, "Mercury bulbs emit a continuous low pressure light at a single range of 254 nm, and the effect of this UV light is cumulative requiring a longer cycle time of approximately 45 minutes for spore reduction. Pulse xenon UV disinfection emits a broad range of UV light from 200-280 nm in a high-intensity pulsatile manner, and the recommended average treatment time is approximately 18 minutes (per room). Pulsed xenon devices also are somewhat safer because mercury-based devices can release toxic gases if they break accidentally. We choose to use the pulse xenon device because of the shorter cycle time."

"We congratulate the Westchester Medical Center team on these outstanding results," says Mark Stibich, PhD, chief scientific officer of Xenex. "This is the 12th peer-reviewed study proving the efficacy of pulsed xenon UV for room disinfection. Not all UV light is the same and only Xenex's pulsed xenon UV technology has been capable of delivering HAI reduction results that stand up to peer review. As hospital decision-makers evaluate UV systems, we strongly encourage them to practice evidence-based medicine and look to the published literature as a guide."

MD Anderson Cancer Center, the Central Texas Veterans Health Care System, Cooley Dickinson Health Care (an affiliate of Massachusetts General Hospital and Partners HealthCare System) and other hospitals have published 12 studies providing evidence of the Xenex robot's efficacy in highly regarded scientific journals that include the American Journal of Infection Control (AJIC), Journal of Infection Prevention, Infection Control & Hospital Epidemiology (ICHE) and BMC Infectious Diseases. These studies from hospitals that purchased Xenex robots report

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greater than 50 percent decreases in MRSA and C.diff infection rates in peer-reviewed literature, documenting how they used the Xenex robot in their real-world hospital environment to reduce infection rates.

Source: Xenex Disinfection Services