



Reducing Healthcare Associated Infections (HAIs): Not All UV Light is the Same

In 2010, [Xenex Disinfection Services](#) launched a new UV light room disinfection system utilizing environmentally friendly xenon, an inert gas. Its [patented technology](#) is 25,000 times more intense than mercury UV systems and enables Xenex's [germ-zapping robots](#) to disinfect healthcare facilities in a fraction of the time it takes for mercury bulb devices to disinfect rooms. Pulsed xenon emits high intensity UVC light across a broad germicidal spectrum (200-280 nanometers versus the single spectrum of 253.7 nanometers for mercury bulbs). This broad germicidal spectrum enables Xenex devices to eliminate a wider range of pathogens at a much faster rate than mercury devices. The Xenex germ-zapping robot can disinfect a typical patient/procedure room in 5-10 minutes, as demonstrated in multiple peer-reviewed published studies. The only non-mercury UV room disinfection solution is provided by Xenex.

“Eliminating pathogens from patient rooms is the quickest and easiest way to lower the risk of additional infections. Our customers report in peer-reviewed, published studies that after using our patented germ-zapping robots to disinfect surfaces, they experienced significant reductions in hospital acquired infections. That’s because our devices are faster, more effective and easier to use than mercury-based UV room disinfection systems,” said [Mark Stibich](#), PhD, co-founder and Chief Scientific Officer of Xenex. “Our customers have proven that they can reduce C.diff and MRSA infection rates by more than 50 percent by using our robots for surface disinfection. Only Xenex’s broad spectrum UV light is capable of damaging microorganisms four different ways and ensuring the pathogens are destroyed. We believe in evidence-based medicine and challenge anyone considering UV room disinfection to look at the science behind the competing technologies before making a decision. Not all UV light is the same and our patented pulsed xenon technology has truly set itself apart.”

Key Questions For Evaluating UV Systems

In response to market confusion about the two types of UV disinfection systems, pulsed xenon UV and mercury UV, Xenex recommends asking these questions when evaluating technologies:

- 1 Does the device contain mercury?
- 2 Does the vendor have studies demonstrating efficacy in the hospital environment, under real-world conditions? Are they more effective than housekeeping at eliminating bioburden?
- 3 Is there a residual odor in the room after the device has been operated?
- 4 What is the cycle time to eliminate C.diff spores?
- 5 Are the device placement guidelines evidence-based? Do they recommend multiple positions to account for the effects of shadowing?
- 6 Do they have peer-reviewed, published studies by hospitals that have experienced 50 percent and greater reductions in infection rates after using their UV technology for surface disinfection?
- 7 Do they offer a customized infection prevention protocol? Do they have Infection Preventionists and Epidemiology staff available to consult with you and provide recommendations specific to your facility and the pathogens in your facility?
- 8 What is their customer base? Do they have references from prestigious hospitals and hospital systems?
- 9 Have they developed best practice guidelines for the use of UV disinfection?

Speed of System: When Time is a Factor

Room turnover time is a serious factor for busy hospitals and their Environmental Services (EVS) teams. Mercury UV room disinfection systems utilizing mercury bulbs require two to three minutes to warm up, and 15 minutes to cool down. The Association of Professionals in Infection Control & Epidemiology (APIC) guidelines* for mercury UV systems recommend 45 minute cycles to eliminate C. diff spores in the patient environment. This brings the minimum treatment time for a patient room for a mercury-based UV room disinfection system to approximately three hours as compared to three five-minute cycles for pulsed xenon UV devices.

“Many companies produce UV devices with mercury bulbs and none of these mercury companies have achieved peer reviewed patient outcomes from the use of their devices in hospitals. Hospital decision-makers need to understand the significant scientific differences between UV light technologies as they evaluate room disinfection systems,” said Morris Miller, CEO of Xenex. “Only Xenex is non-mercury and only Xenex has peer-reviewed studies demonstrating a reduction in actual patient infection rates when Xenex robots are used for surface disinfection.”

Published studies by hospitals that have experienced reductions in infection rates after using Xenex’s pulsed xenon UV light technology for surface disinfection can be found at www.xenex.com/studies.

Understanding the use of mercury bulbs in room disinfection technology is not marketing hype. As evidence of the dangers of high toxicity of mercury to human health increases, hospitals and health organizations are looking for and often requiring mercury-free solutions. In January 2013, the World Health Organization (WHO.org) and Health Care Without Harm, (HCWH.org), an international coalition of medical professionals, community groups and hospitals, approved Mercury-Free Healthcare by 2020. In 2009, President Obama signed Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, which states that the government will promote pollution prevention and the generation of waste by reducing and minimizing the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of.

About Xenex Disinfection Services

Xenex's patented pulsed xenon UV room disinfection system is a pesticidal device used for the advanced cleaning of healthcare facilities. Due to its speed and ease of use, the Xenex system has proven to integrate smoothly into hospital cleaning operations. The Xenex mission is to eliminate harmful bacteria, viruses and spores that can cause hospital acquired infections in the patient environment, and to become the new standard method for disinfection in healthcare facilities worldwide. For more information, visit www.xenex.com.

Source: http://www.heraldonline.com/2014/09/04/6291682_reducing-healthcare-associated.html?sp=/100/773/385/&rh=1

4 September 2014