A 'Clean' Break From Tradition

***Surgical Products* recently spoke with Chuck Dunn, president of Lumalier, about some non-traditional methods of infection control being practiced in hospitals today. Lumalier makes Tru-D SmartUVC, a portable UV disinfection system.**

***SP:* What's driving the increased prevalence of some non-traditional methods of infection control and sterilization in hospitals and medical facilities today?**
Dunn: Hospitals and medical facilities are challenged by the continuing evolution of the nasty pathogens – "superbugs"– that lurk in hospital environments and can contribute to healthcare-associated infections (HAIs), making patients sicker than they were when they checked in. It is absolutely the worst-case scenario for any hospital to have a patient develop an infection after being admitted. Traditional chemical cleaning methods have been linked to the emergence of chemical-resistant pathogen mutations that are highly resistant to common cleaning chemicals, requiring facilities to transition to stronger and stronger chemical cleaners. Traditional methods have also been shown to lack in complete disinfection of hospital environments, proving to be only about 50 percent effective in ridding surfaces of pathogens such as influenza, norovirus, Clostridium difficile (C. diff.), Methicillin-resistant Staphylococcus aureus (MRSA), and carbapenem-resistant Enterobacteriaceae (CRE) that can compromise patient outcomes.

***SP:* Why are some facilities looking to invest in new technology/products or adopt different strategies to limit the spread of infection? What has changed or what knowledge have they gained that has led them to move away from some of the traditional or tried-and-true methods?**
Dunn: Healthcare providers have traditionally relied on manual cleaning to disinfect patient rooms and surgical suites after use. However, studies have shown this type of cleaning is usually ineffective due to human error, leaving dangerous pathogens behind to lurk and allowing for the possible transmission of the pathogens from one room to another by hospital staff. Innovative technology reduces the possibility of human error and takes the guesswork out of determining whether a patient room or surgery suite is completely disinfected and ready for the next patient. This technology eliminates the risk of increased pathogen mutation and chemical resistance and allows for higher efficiency in disinfection and quicker turnaround of patient areas, allowing the hospitals to be more productive and successfully treat more people.

***SP:* For those hospitals and medical facilities looking into nontraditional products and methods, what options are out there for them?**
Dunn: There are a couple of nontraditional products in the market now that utilize different methods for disinfection. One such method is automated dosing of UV light irradiation, which when measured at certain wavelengths will modify the DNA structure of an infectious cell so that it cannot reproduce, and a cell that cannot

reproduce cannot colonize and is thus destroyed. The ability to measure reflected UVC dose additionally ensures disinfection in shadowed and hard-to-reach high-touch surfaces from a single placement in the room. Another method utilizes hydrogen peroxide vapors, which can be highly effective. However, it may be caustic to delicate instruments and take more than four times longer to complete a disinfection cycle, prolonging room turnover and potentially reducing hospital productivity. There are several third-party studies directly related to TRU-D that offer in-depth research on its effectiveness and consistent disinfection outcomes regardless of room variables, including room size, shape, wall coloring, and the amount of equipment in the room. These evidence-based studies are an excellent source of information for hospitals and medical facilities researching nontraditional disinfection products.

SP: **What can be gained from purchasing these products and adopting these methods?**
Dunn: These products are designed to complement a hospital's existing comprehensive cleaning and disinfection program while reducing the possibility of human error. The technology allows for higher efficiency in disinfecting hospital environments and quicker turnaround of patient areas, allowing the hospitals to be more productive and successfully treat more people. Additionally, an automated disinfection robot allows fast room set-up for a reduction in man hours spent while still maintaining an increase in efficiency, which is always valuable to a hospital's operating budget.

SP: **How do you see the market demand for nontraditional products and methods changing over the long and short term? What determining factors will affect how the market develops?**
Dunn: We believe that the technology is really only beginning to be fully understood and appreciated by the healthcare industry. We had a few early adopters of our technology when we first introduced TRU-D in 2007 – and those clients have since added additional units to their hospital systems. We believe that in the very near future, this system will be a standard part of infection control programs at hospitals across the country, as leaders realize the return on investment – that being higher-quality patient care.

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