



## Application Note: #34

### Ultraviolet Light Disinfection within Plastic Surgery



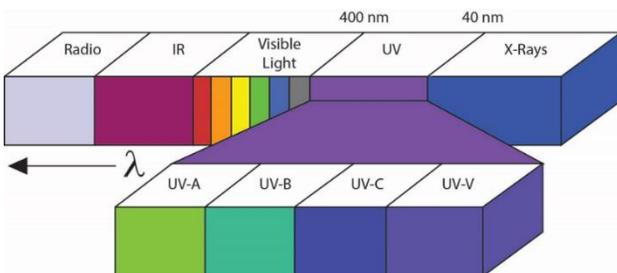
Any location poses risk of contamination, yet public facilities are subject to greater degree of risk and allow for higher chance of exposure to harmful germs. Plastic Surgery centers are many of times visited to receive an elective procedure, meaning that quality is of utmost importance in not only the results of the procedure itself, but in the facility, post op recovery, and experience overall.

#### Contamination Risks

Surfaces in healthcare facilities are of utmost importance due to the sensitive environment and type of bodily exposure patients, and their care providers, subject themselves to in these places. Surfaces are often overlooked or difficult to clean, such as privacy curtains, or traditional methods of cleaning are utilized, but are not sufficiently efficient. A 2017 study by the Journal of Hospital Infections found that in 2016, 31% of privacy curtains in a Burns/Plastic Surgery ward were contaminated with MRSA<sup>1</sup>. If contaminants are not properly taken care of, there is a high risk for multiple transmissions of a disease or bacteria. Studies determined that the most common nosocomial pathogens, diseases acquired during a stay at a healthcare facility, may well survive or persist on surfaces for months and can thereby be a continuous source of transmission if not properly treated. The best way to reduce nosocomial pathogens is through disinfection of surfaces in the immediate environment of patients<sup>2</sup>.

#### How does UV solve these problems?

UV light has been proven to be effective for killing viruses, bacteria, molds, and spores. UV light will kill all common microorganisms that are exposed to the light. UV light can reach surfaces that are harder to wipe down, such as remotes, knobs, curtains, etc. UV light provides chemical-free, liquid-free disinfection that does not require any mixing or storage of hazardous chemicals.



When UV light is used, the exposure can be observed through a window to easily determine if critical surfaces are being adequately exposed to light, whereas when solely spray and wipe methods are utilized, it is extremely difficult to determine if an area has been missed. Dummy bulbs (non UV-C bulbs) may also be

used to set up a cycle/exposure initially, with a person directly with the disinfection area to determine coverage, if the exposed area cannot be seen safely through a window.

### Applications within a Plastic Surgery Center

When imagining luxury service, patients want to be ensured top-rated customer service from all levels of care the moment that they step foot in the door. Ensuring their health is the most important component of this experience.

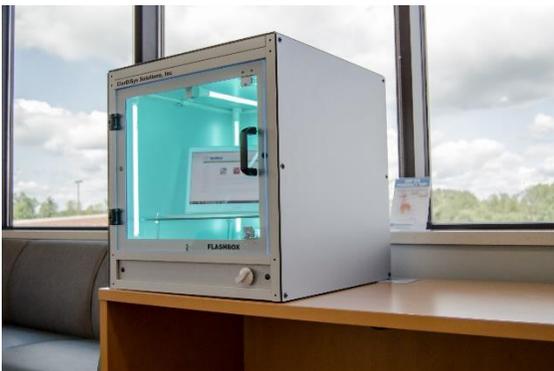
In the waiting room, Torch Aire can allow for continuous disinfection of the flow of air. A 2,000 ft<sup>3</sup> space can have its entirety passing through our device within the span of 8 hours. Any air flowing through is being treated by two concealed UV-C bulbs that kill any pathogen it faces. The device is quiet, effective, and since the bulbs are hidden from view, can operate even in the presence of patients and staff. The Torch Aire also has applications in the Operating Room where it can disinfect the air of any organisms aerosolized during the actual surgical procedure.



Operating and patient rooms are also ideal applications for room disinfection devices, such as the Torch or Torch+. They can be used before after hours to disinfect any surface the ultraviolet light shines upon and result in a 99% kill within minutes. For unique spaces with difficult to reach areas, devices like the Torch-Flex or Torch-Double Flex might be more applicable with their adjustable arms that can fit between tight spaces or underneath beds or other surfaces. While these are all portable options that can be shared between many rooms, a more permanent and customized approach to your unique space is to install Flashbar panels directly into a space to provide maximum UV-C exposure with the flip of a switch.



Smaller items, including electronics, phones, tablet computers, pens, equipment, tools, stethoscopes, and more are regularly handled by various individuals and poses a high risk to be transmitters of harmful organisms. To combat this, small disinfection chambers such as the Flashbox or Flashbox mini



allow for multiple items to be placed inside and be exposed to UV-C light for rapid disinfection within about a minute.

Relying on cleaners coming in nightly is not enough to provide your patients the best protection from germs that they deserve. Ultraviolet light disinfection methods provide a low cost, quick, and simple approach to address areas often unable to be properly addressed otherwise. Your facility, patients, and staff will all experience the comforts of knowing they are in the best care from all aspects of your practice.

1. Shek, K. et al. Rate of contamination of hospital privacy curtains on a burns and plastic surgery ward: a cross-sectional study. *Journal of Hospital Infection* , Volume 96 , Issue 1 , 54 – 58.
2. Kramer et al. How Long Do Nosocomial Pathogens Persist on Inanimate Surfaces? A Systematic Review. *BMC Infectious Diseases*. 2006.