

Effectiveness of UV-C light for sanitizing computer keyboards

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Introduction

- Computer keyboards in college institutions can be contaminated with microbes due to multiple users
- Less than 50% of college-aged students frequently or always wash their hands before eating (*American Journal of Infection Control*, (37)1:70-72, 2009)
- Microbes on keyboards can be transferred to hands and then to food, causing illness
- UV-C light wands claim to kill 99% of bacteria, viruses, mold and dust mites on almost any surface
- UV-C light is electromagnetic radiation, with wavelengths of 220-280 nm
 - Destroys nucleic acid → disrupts DNA & reproductive capabilities → kills micro-organisms

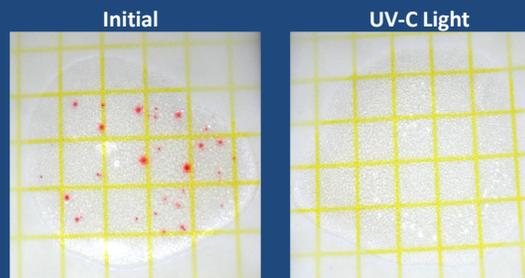
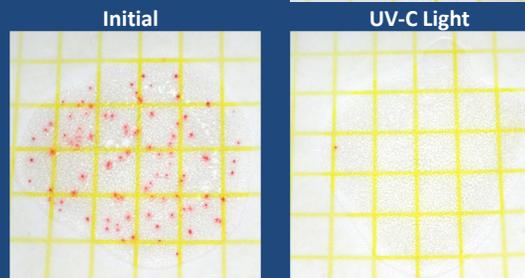
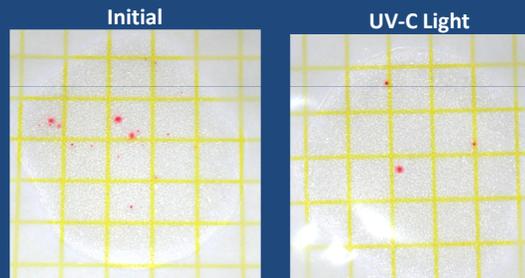
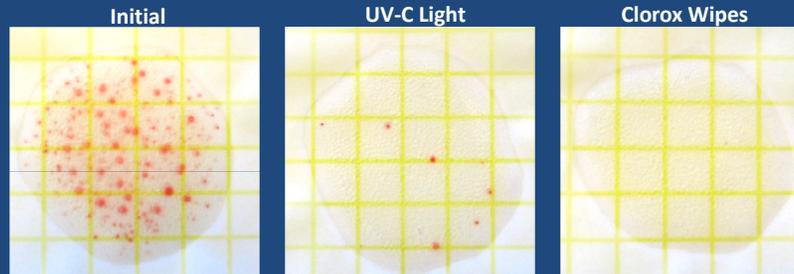
Purpose

To assess the effectiveness of UV-C light wands as a sanitizing tool for computer keyboards

Materials & Methods

- Random selection of 32 computer keyboards in public locations on a college campus were initially dry-swabbed using 3M Quick Swabs
- For the first 16 computers:
 - half of each keyboard was treated with a Clorox disinfecting wipe and re-swabbed
 - the other half of the same keyboard was treated with the Germ Guardian UV-C light wand for ten seconds held two inches above the keyboard [manufacturer's directions] and re-swabbed
- For the second 16 computers:
 - treated with only the UV-C light wand and re-swabbed
- Media from the Quick Swabs were transferred to 3M Petrifilm Aerobic Count Plates
- Samples incubated at 37° C for 48 hours

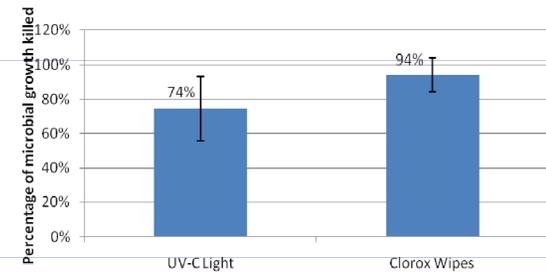
Results



Summary & Conclusions

- 100% of computer keyboards initially contained microbial growth
- The UV-C light wand was not as effective a sanitizing agent for computer keyboards as the Clorox Wipes
 - UV-C light: 74 ± 19% effective
 - Clorox Wipes: 94 ± 9% effective
- Individuals should always wash their hands after using public access computers
- Consider Clorox Wipes or another comparable sanitizing product to prevent cross contamination

Effectiveness of UV-C light and Clorox wipes at sanitizing computer keyboards



Germ Guardian UV-C Light Wand

Acknowledgements

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