

The efficacy and safety of UVC disinfection in decreasing hospital acquired infections in a tertiary trauma centre and state adult burns centre

Mr Cheng Hean Lo¹, Dr Alex Padiglione², Dr Eldho Paul³, A/Prof Heather Cleland¹

¹Victorian Adult Burns Service, The Alfred, Melbourne, Australia, ²Department of Infectious Diseases, The Alfred, Melbourne, Australia,

³Department of Epidemiology & Preventive Medicine, School of Public Health & Preventive Medicine, Monash University, Melbourne, Australia

Abstract:

INTRODUCTION/ AIM

Burn wound colonization is common, from gram-positive bacteria to gram-negative organisms arising from endogenous enteric flora, direct contamination from exogenous microorganisms, or from hospital-acquired organisms. This colonization may lead to local wound infection, increased tissue loss, graft loss and systemic infections. In our burns service, nearly one third of burn patients had wounds colonized with pathogenic microorganisms.

The efficacy of ultraviolet-C technology (UVC) as a disinfection tool is widely accepted. These devices deliver a measured dose of UV energy that inactivates DNA and RNA through absorption of photons resulting in formation of pyrimidine dimers from thymine and cytosine and destroys microorganisms. Numerous studies have shown that UVC devices are germicidal against numerous multi-resistant organisms and reduce bioburden. However, few studies directly measure impact of UVC disinfection on hospital-acquired infection rates. In particular, there is a paucity of data from Australasia.

The Surfacide Helios® (Surfacide, Waukesha WI, United States) multiple emitter automated UVC disinfection system has been implemented in our surgical ward since April 2020 as an adjunct to pre-existing standard hospital cleaning protocols. The aim of this study is to determine the efficacy and safety of this UVC disinfection technology as an adjunct to standard hospital cleaning protocols.

METHOD

This is a retrospective and prospective review of UVC disinfection technology, pre- and post- implementation. The study period includes a five year baseline or pre-implementation period (12 May 2015 – 11 May 2020) and a one year intervention or post-implementation period (14 July 2020 – 13 July 2021). The primary endpoint of this study is incidence rates of hospital-acquired infections involving multi-resistant organisms. As the secondary endpoint examining safety of UVC devices, reported breaches of protocol, incidents and near misses are investigated.

RESULTS

Data analysis for this study is ongoing and will be comprehensively presented at the conference.

Biography:

A fully qualified specialist plastic & reconstructive surgeon, the presenter has authored more than forty peer-reviewed journal articles and presented at national and international meetings. He is an adjunct senior lecturer at Monash University.

ABOUT ANZBA

ANZBA is a not for profit organisation and the peak body for health professionals responsible for the care of the burn injured in Australia and New Zealand. ANZBA encourages higher standards of care through education, performance monitoring and research.

anzba.org.au

CONFERENCE MANAGERS

Please contact the team at Conference Design with any questions regarding the conference.

✉ mail@conferencedesign.com.au

☎ [+61 3 6231 2999](tel:+61362312999)

WWW.CONFERENCEDESIGN.COM.AU

CONNECT

