Using Pulsed Xenon Ultraviolet to Decrease Contamination in Operating Rooms During Terminal Cleaning

Maurice Croteau1 CEH HEM, Sarah Simmons2 MPH, CIC, Mark Stibich2, PhD, MHS, Julie Stachowiak2, PhD, MPH, MIA, 1 St. Joseph’s Hospital and Medical Center, Phoenix, AZ, 2 Xenex Healthcare Services, San Jose, CA, 350 West Thomas Road, Phoenix, AZ

Introduction

• Per AORN guidelines, operating rooms should be terminally cleaned every 24 hours. This cleaning is necessary to reduce the microbial burden on the environment in operating rooms.1

• Studies have shown that only 47% of operating room surfaces are cleaned throughout the day.2 Pathogens such as MRSA, Acinetobacter spp., Pseudomonas spp. and E. coli can be recovered from OR surfaces after cleaning.2,3

• Pulsed Xenon has been used to enhance environmental cleaning in patient rooms, and may be useful to terminally clean operating rooms.4,5

Methods

• Environmental samples were taken from five surfaces in 16 ORs after standard terminal cleaning, and from the same five surfaces in 22 ORs after Turnover Clean + PX-UV.

• Turnover Cleaning + PX-UV consisted of a standard between case clean, plus removal of visible soil. After cleaning, the PX-UV device was run for 5 minutes on surfaces that did not have visible soil. There was no routine disinfection of OR surfaces after cleaning. PX-UV was effective in reducing microbial contamination levels after standard terminal cleaning. Turnover Clean + PX-UV is a modified Turnover (between case) cleaning plus PX-UV.

• PX-UV technology has been used in the hospital setting to terminally clean patient rooms at discharge, and may be of use in terminal cleaning of ORs. This study assesses the level of bacterial contamination in a terminally-cleaned OR as compared with a modified turnover (between case) clean plus PX-UV.

• PX-UV has been used to enhance the ability to comply with the AORN standards. Pulsed xenon ultraviolet (PX-UV) technology has been used in the hospital setting to terminally clean patient rooms at discharge, and may be of use in terminal cleaning of ORs. This study assesses the level of bacterial contamination in a terminally-cleaned OR as compared with a modified turnover (between case) clean plus PX-UV.

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