

ment of the infection control measures, the outbreak was brought under control.

Conclusion: The results indicate the importance of active surveillance for the prompt detection of an outbreak by Infection Control Committee so that reinforcement of infection control measures could be taken to decrease the morbidity/mortality due to opportunistic pathogens in hospital settings.

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Room: Hall 3 (Posters & Exhibition)

Disinfection against healthcare-associated infections: Current status and recent progress in products and procedures



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Background: Healthcare-associated infections (HAI) continue to be a major global threat. Indeed, many on-going societal changes and rampant antimicrobial resistance are adding further to their health and economic impacts. With dwindling options for chemotherapy and limited availability of safe and effective vaccines, there is increasing reliance on disinfectants for infection prevention and control (IPAC).

Methods & Materials: However, the selection/use of disinfectants in itself is a challenge with various blends of some 275 different types of actives in thousands of products with varying label claims, safety profiles and cost structures. Further, a closer scrutiny reveals disparities between their pre-market testing and actual field-use in healthcare and other settings. There are also mounting concerns on the human and environmental safety of certain widely used disinfectant chemicals, label directions as well as the listing of numerous irrelevant pathogens on product labels. In many healthcare settings purchasing decisions are generally based on cost alone, and the front-line environmental services staff are often inadequately trained and monitored for their crucial roles in environmental decontamination, frequently resulting in suboptimal disinfection practices.

Results: All these factors together undermine the potential benefits of disinfectant use. This presentation will critically review the above-mentioned issues with emphasis on disinfection of high-touch environmental surfaces (HITES) and highlight recent developments in quantitative and internationally-harmonized test protocols to assess such formulations against major classes of human pathogens and also list criteria for choosing and applying disinfectants for optimal effectiveness and safety. The information to be presented should: (a) better inform end-users on prudent selection and application of disinfectants for effectiveness as well as workplace and environmental safety, (b) convince materials managers to consider the overall benefits of disinfectant use and not the cost alone, (c) encourage manufacturers to explore innovative and more effective ways of countering HAI, (d) urge regulators to update the requirements and procedures for pre-market registration of

Conclusion: Proper and regular disinfection of HITES in particular must be an important adjunct to hand hygiene in order to successfully interrupt the spread of HAI for patient and occupational safety.

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Decontamination of high-touch environmental surfaces in healthcare: Quantitative assessment of disinfectant pre-soaked wipes.



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Background: High-touch environmental surfaces (HITES) are increasing being recognition as vehicles for healthcare-associated pathogens. While such surfaces are normally decontaminated by wiping with disinfectant-presoaked towelettes (DPTs), DPTs are rarely tested simulating their field use. Also, the label claims of environmental surface disinfectants seldom include the wiping action. This study used a new device (The Wiperator) to assess three commercial DPTs for decontaminating HITES and to transfer the acquired contamination to clean surfaces.

Methods & Materials: Each disk (1 cm diam.; 0.7 mm thick) of magnetized and brushed stainless steel received 10 μ L ($\sim 10^7$ CFU) of *Staphylococcus aureus* or *Acinetobacter baumannii* in 0.3% bovine serum albumin and dried. The DPTs and a control fabric (J-Cloth wetted with Tryptone-saline) were tested by an orbital motion for 5 or 10 s at a pressure of 150 g. Each disk was eluted in 1.0 mL of an eluent/neutralizer, the eluates assayed, and \log_{10} CFU reduced or transferred calculated. The product performance criterion was $>4 \log_{10}$ ($>99.99\%$) reduction in CFU of both organisms by wiping with no detectable CFU transferred.

Results: J-Cloth removed *S. aureus* and *A. baumannii* by 2.88 \log_{10} and 3.23 \log_{10} , and transferred 4.13 \log_{10} and 4.06 \log_{10} , respectively. In all tests, DPTs with 0.5% accelerated H_2O_2 reduced the CFU of both the bacteria to undetectable levels with no detectable transfer. The product with a mixture of quaternary ammoniums (quats) and $\leq 24\%$ ethanol reduced the *S. aureus* and *A. baumannii* CFU by 5.53 \log_{10} and 5.80 \log_{10} , respectively; the corresponding transfers were 2.82 \log_{10} and 2.04 \log_{10} . The product with a mix of polymeric biguanide and two types of quats reduced the *S. aureus* and *A. baumannii* CFU by 4.71 \log_{10} and 5.73 \log_{10} , respectively; the transfer for *S. aureus* was 2.5 \log_{10} but no detectable transfer for *A. baumannii*.

Conclusion: The device and the protocol described can quantitatively determine HITES decontamination as well as transfer of the acquired microbial contamination on DPTs to clean surfaces for better risk assessment and in making more relevant and reliable claims on marketed DPTs.

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