ANTIMICROBIAL PRODUCT
PROTECTION IN HEALTHCARE

SRScales® by SR Instruments, Inc.

MICROBAN®

THE TOP TEN *FACTS* YOU NEED TO KNOW

Antimicrobials are a key component to the overall ability to control microorganisms. The importance of utilizing a multi-prong approach to combat Hospital Acquired Infections (HAIs) cannot be overstated, but there are common misconceptions about the use of embedded antimicrobial solutions. Here are the *facts* you need to know to be an informed a decision-maker in the industry.

- **The patient environment can harbor pathogens.** The prior patient having an infection increases the risk of a new patient getting a HAI. This results are 1.4X the risk for a Methicillin Resistant Staphylococcus aureus (MRSA) infection, 2.5X for a Vancomycin Resistant Enterococcus (VRE) infection and 2.5X increased risk for a Clostridium difficile infection.[1]

- **Hand washing isn't sufficient.** Despite 7 years of increasing hand hygiene awareness, there is still only a 40% compliance rate among healthcare workers. This means that 6 out of 10 times there is a missed opportunity for a healthcare worker to appropriately wash their hands, leading to cross contamination and increased risk of HAIs [6].[2]

- **There are different types of AM that are often mistakenly interchanged.** Antimicrobial is a broad term that actually encompasses three classes. The three classes of antimicrobials are:
  Antibiotics: utilized for treating patients with microbial based infections.
  Disinfection antimicrobials: antimicrobials utilized in liquid or wipe applications that deliver high kill rates quickly but provides discontinuous microbial reduction. **Embedded antimicrobials:** antimicrobials utilized for product preservation, odor control and the control of stain causing microorganisms and can offer continuous microbial reduction on a material.[3]

- **A systems approach is needed in healthcare.** There are multiple avenues that can lead to a reduction in HAI rates. These include adherence to strict handwashing regimens, vigilance over patient care, and care of the patient environment. Only by impacting all three areas of the healthcare ecosystem will a significant reduction in HAI rates be obtained.[4]

- **Embedded antimicrobials are safe for the environment.** Embedded antimicrobials are encapsulated within the article and do not leach out into the environment.[5]

- **Embedded antimicrobials are safe for people.** Embedded antimicrobials go through rigorous safety testing with the Environmental Protection Agency (EPA). These tests evaluate the impact of the antimicrobial on human health and safety.[6]

- **Embedded antimicrobials have proven efficacy.** There are multiple government and not for profit institutions that develop protocols to demonstrate antimicrobial efficacy. Microban adheres to a strict internal standard demanding that at a minimum each product must demonstrate a 90% reduction in bacteria over the use of the article.[7]

- **Embedded antimicrobials are durable.** In addition to efficacy testing, Microban performs durability testing that is specific to each end product. This includes UV exposure, washing, cutting, scuffing, and simulated end use conditions for each polymer type and application.[8]

- **Embedded antimicrobials provide a cleaner between cleanings solution.** Bioburden on a hospital surface can rebound 2 hours after being disinfected. It is not feasible to clean a hospital room every 2 hours and therefore an alternate solution is needed. It is the rapid regrowth of the bacterial population that can be cause for concern. Embedded antimicrobials offer a means to reduce the microbial load on a surface over time. These technologies are not meant to replace typical cleaning and disinfection measures but to supplement cleaning on the patient environment. Embedded antimicrobials allow for surfaces that have reduced microbial burden on the surface between each cleaning.[9]

- **Embedded antimicrobials do not lead to "super bugs".** Embedded antimicrobials are utilized at levels that do not lead to the development of bacterial resistance. In addition, embedded antimicrobials target multiple areas of the cell. This multi-targeted approach makes it extremely difficult for bacteria to develop resistance. In general, "super bugs" are generated due to misuse of antibiotics by physicians and patients not by the use of embedded antimicrobials.[10]

References

1. Chemaly, R.F., et al., The role of the healthcare environment in the spread of multidrug-resistant organisms: update on current best practices for containment. Ther Adv Infect Dis, 2014. 2(3-4): p. 79-90.
2. FitzGerald, G., G. Moore, and A.P. Wilson, Hand hygiene after touching a patient's surroundings: the opportunities most commonly missed. J Hosp Infect, 2013. 84(1): p. 27-31.
3. Randle, J., A. Arthur, and N. Vaughan, Twenty-four-hour observational study of hospital hand hygiene compliance. J Hosp Infect, 2010. 76(3): p. 252-5.
4. Weber, D.J., D. Anderson, and W.A. Rutala, The role of the surface environment in healthcare-associated infections. Curr Opin Infect Dis, 2013. 26(4): p. 338-44.
5. Otter, J.A., et al., Evidence that contaminated surfaces contribute to the transmission of hospital pathogens and an overview of strategies to address contaminated surfaces in hospital settings. Am J Infect Control, 2013. 41(5 Suppl): p. S6-11.
6. Drees, M., et al., Antibiotic exposure and room contamination among patients colonized with vancomycin-resistant enterococci. Infection Control and, 2008.
7. Drees, M., et al., Prior environmental contamination increases the risk of acquisition of vancomycin-resistant enterococci. Clin Infect Dis, 2008. 46(5): p. 678-85.
8. Nseir, S., et al., Risk of acquiring multidrug-resistant Gram-negative bacilli from prior room occupants in the intensive care unit. Clin Microbiol Infect, 2011. 17(8): p. 1201-8.
9. Shaughnessy, M.K., et al., Evaluation of hospital room assignment and acquisition of Clostridium difficile infection. Infect Control Hosp Epidemiol, 2011. 32(3): p. 201-6.
10. Huang, S.S., R. Datta, and R. Platt, Risk of acquiring antibiotic-resistant bacteria from prior room occupants. Arch Intern Med, 2006. 166(18): p. 1945-51.

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