

CLEANPatch-V®

Microbial Growth Study: Determining the microbial growth property of CleanPatch-V edge and surface before and after cleaning.

May 23rd, 2018

Background

Surfaces play a key role in the transmission of healthcare acquired infections, and thorough cleaning of the healthcare environment is crucial to patient safety. Damaged soft surfaces cannot be properly cleaned and may harbor pathogens that pose a risk of cross contamination.¹ CleanPatch-V is a new Health Canada and FDA registered Class 1 medical device specifically designed to restore damaged vinyl surfaces to an intact and hygienic state. **A study of CleanPatch-V was conducted to determine the microbial growth property on the surface and edge, before and after disinfection with sodium hypochlorite.**

Experiment Design

University of Calgary Biomaterials and Tissue Engineering Centre conducted testing with either *Escherichia coli* (*E.coli*) or *Staphylococcus aureus* (*S.aureus*). A control sample (glass slide) and a test sample (1 x 1 inch section of CleanPatch-V) were prepared. Samples were cleaned with 1% sodium hypochlorite and allowed to dry, and then inoculated with 5 ml of bacteria (10^6 cells / ml in log phase). Samples were then incubated at 37°C for 24 hours. After incubation, samples were cleaned with 1% sodium hypochlorite with a contact time of 1 minute before wiping dry. Sterile swabs were used to sample either the edge or surface of CleanPatch-V. All samples were quantified for bacterial growth in Log CFU/ml using common microbiological techniques.

Results

There was no statistically significant ($p < 0.05$) difference in microbial growth between the control sample and the CleanPatch-V sample before cleaning. After cleaning with 1% sodium hypochlorite, the control sample and CleanPatch-V samples showed a statistically significant ($p < 0.05$) reduction in microbial growth.

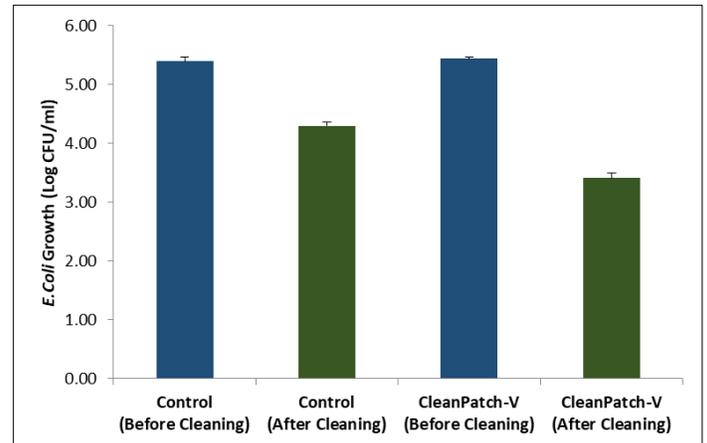


Figure 1: *E.coli* Microbial Growth Results – Patch Edge

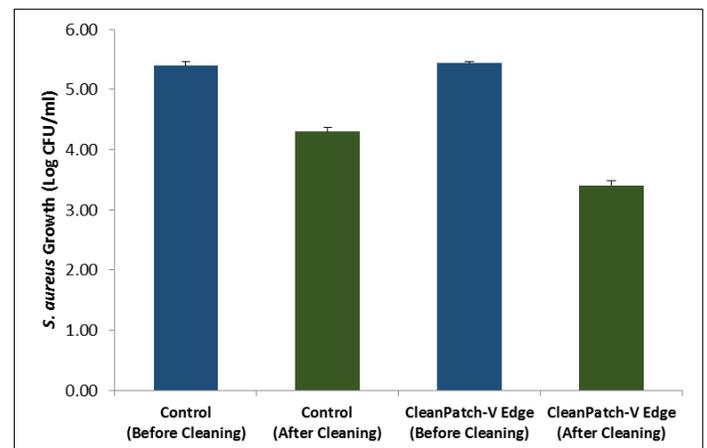


Figure 2: *S.aureus* Microbial Growth Results – Patch Edge

Conclusion

There was no difference in microbial growth property between CleanPatch-V when compared to the control. CleanPatch-V can be effectively cleaned by hospital grade disinfectants such as sodium hypochlorite.

For more information about this case study, please contact Tony Abboud, at tony@surfacemedical.ca

References:

1. FDA Safety Communication: Damaged or worn covers for medical bed mattresses pose risk of contamination and patient infection. April 19, 2013