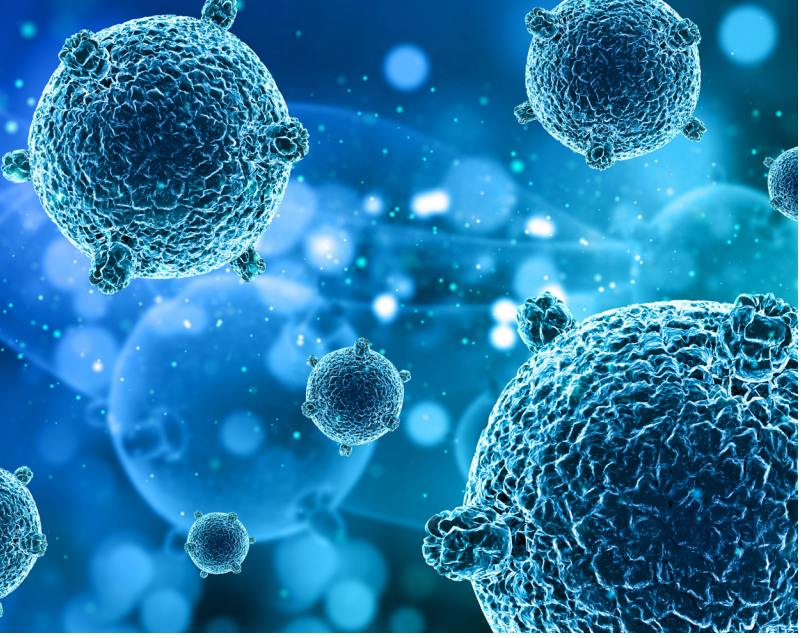

PROCESS CLEANING SOLUTIONS
Bringing Science to the Art of Cleaning

Microbial Biofilms in Healthcare

Formation, Prevention and Treatment

"Biofilms' increased tolerance to desiccation means that they can survive dry conditions which readily kills planktonic bacteria. DSB have been shown to survive over 12 months in a sterile container, on a bench without any nutrition, and they are particularly tolerant to disinfectants.

DSB have been detected on over 90% of dry hospital surfaces in four countries (Australia, Brazil, Saudi Arabia and the United Kingdom).

In this special issue, Ledwoch and Maillard investigated the efficacy of 12 commercial disinfectants and 1000 ppm Sodium hypochlorite (recommended as the disinfectant of choice by Public Health England) against DSB composed of Candida auris.

They initially developed a DSB model of this emerging pathogen and then used this model DSB in a modification of the ASTM2967-15 Wiperator test to measure decrease in C. auris viability, transfer of C. auris and biofilm re-growth following treatment. Similar to bacterial DSB, C. auris DSB showed increased tolerance to common disinfectant agents."

FINDINGS FROM THE GROUP OF PRESENTATIONS SEE LINKS BELOW TO REVIEW.

1st Biofilm bacteria imbedded in dry surface biofilms are highly resistant to many disinfectants including Quaternary Ammonium, Hydrogen Peroxide and 500 ppm of Sodium Hypochlorite. 1000 ppm of Sodium hypochlorite is one the very few disinfectants effective at removing dried surface biofilms, preventing their spread to other surfaces and is effective at delaying biofilm regrowth.

2nd Biofilm bacteria imbedded in dry surface biofilms are highly resistant to removal by detergent cleaning.

3rd Touching a dry surface biofilm can release and transfer infectious dose of antibiotic resistant pathogens. Surfaces can release and transfer 10 times more bacteria if the surface is coated with a detergent residue.

4th Current healthcare cleaning and disinfecting processes are not effective at removing / killing dry surface biofilms or preventing their transfer to adjacent areas or preventing dry surface biofilm regrowth.

5th Healthcare cleaning and disinfecting processes need to be effective at removing dry surface biofilm bacteria, prevent the transfer of dry surface biofilm bacteria and delay regrowth of the biofilm bacteria.

PCS 1000 Plus Oxidizing Disinfectant Cleaner
Active Ingredient
Sodium hypochlorite - 0.13%
Hypochlorous acid - 0.01%
Oxidizing Cleaner
Oxidizing Hospital Grade Disinfectant
Oxidizing broad spectrum virucide
DIN: 02521431

THINK GLOBALLY BUT BUY LOCAL. PROCESS CLEANING SOLUTIONS PROUDLY CANADIAN.

REDUCTION IN VIABILITY OF PATHOGENS EMBEDDED IN DRY BIOFILMS

Candida Auris Dry Surface Biofilm (DSB) for Disinfectant Efficacy Testing

Katarzyna Ledwoch and Jean-Yves Maillard *

Candida auris is an emerging pathogen that needs to be controlled effectively due to its association with a high mortality rate. The presence of biofilms on dry surfaces has been shown to be widespread in healthcare settings. We produced a C. auris dry surface biofilm (DSB) on stainless steel surfaces following sequential hydration and desiccation cycles for 12 days. The ASTM2967-15 was used to measure the reduction in viability of 12 commercially wipe-based disinfectants and Sodium hypochlorite (1000 ppm) against C. auris DSB. Products were used with microfibre cloths.

REDUCTION IN VIABILITY FOR YEASTS EMBEDDED IN DRY BIOFILMS

Sodium hypochlorite -Ref (1000 ppm), and Sodium hypochlorite 3 formulated RTU (1000 ppm) removed or killed more than 7 log10 of C. auris embedded in DSB. PCS 1000 Plus Active Ingredient Sodium hypochlorite 0.13% and Hypochlorous acid 0.01 %.

TRANSFERABILITY TEST

Sodium hypochlorite -3 commercial 1000 ppm Sodium hypochlorite, prevented C. auris transfer after treatment. Wipe surfaces with PCS 1000 Plus Oxidizing Disinfectant Cleaner using PCS microfibre cloth.

Wipe surface dry, rinse or allow to air dry.

PCS Appy and Dry process has been validated with multiple studies using CREMCO QCT 3 quantitative Carrier Test #3 with vegetative bacteria, enveloped and non-enveloped viruses and bacteria spores to prevent pathogen transfer.

DRY-BIOFILM REGROWTH

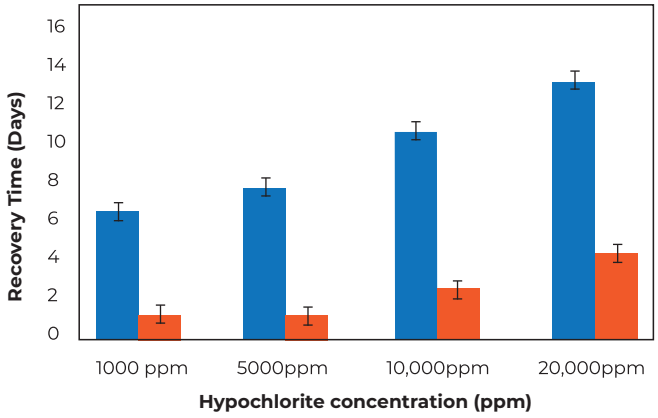

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Figure 1. Days required for recovery of biofilm bacteria, release of planktonic bacteria, and development of tubidity in broth following treatment with sodium hypochlorite solution when incubated at 25°C (Blue Bars) and 37°C (Orange Bars). Four coupons/treatment. Error bars represent standard devisation. ppm, parts per million.

PCS 1000 PLUS OXIDIZING DISINFECTANT CLEANER PROCESS TO CONTINUALLY REDUCE DRY SURFACE BIOFILMS BEFORE THEY REGROW AND POSE A HEALTH RISK.

References

PCS 1000 Plus Oxidizing Disinfectant Cleaner

Microbial Biofilms in Healthcare

Transmission of Staphylococcus aureus from dry surface biofilm (DSB) via different types of gloves

Effect of disinfectant formulation and organic soil on the efficacy of oxidizing disinfectants against biofilms

Candida auris Dry Surface Biofilm (DSB) for Disinfectant Efficacy Testing

Transfer of dry surface biofilm in the healthcare environment: the role of healthcare workers' hands as vehicles

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