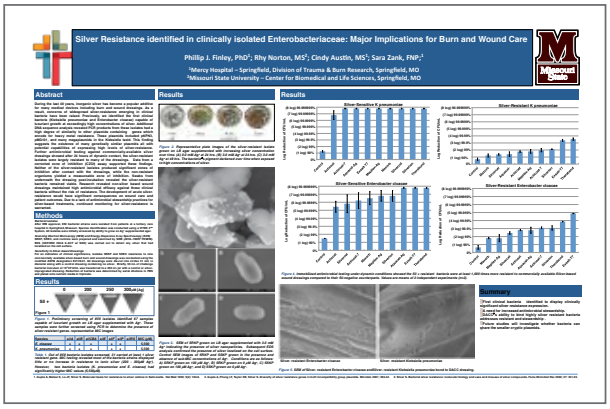


DACC Technology Binds Silver Resistant Bacteria

Silver Resistance Identified in Clinically Isolated Enterobacteriaceae: Major Implications for Burn and Wound Care

Author: P. Finley, PhD, et al.

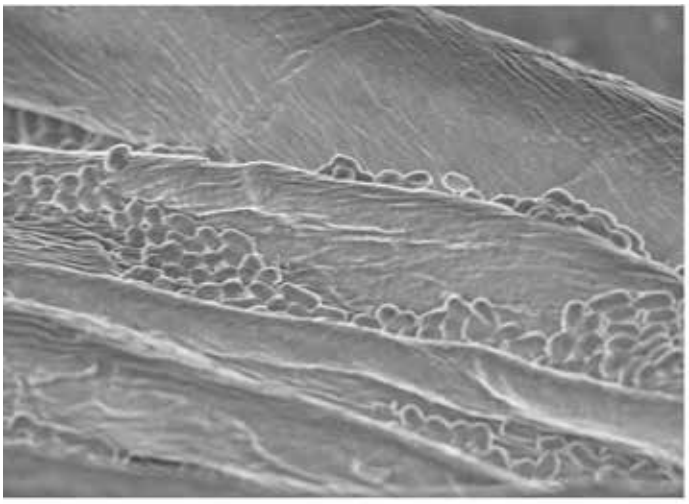
Published: 2015 SAWC Spring Conference

Methods: Different assays were performed including PCR, Minimum Inhibitory Concentration testing, Scanning Electron Microscopy (SEM), Energy Dispersive X-ray Spectroscopy (EDS), and Immobilized antimicrobial testing under dynamic conditions.

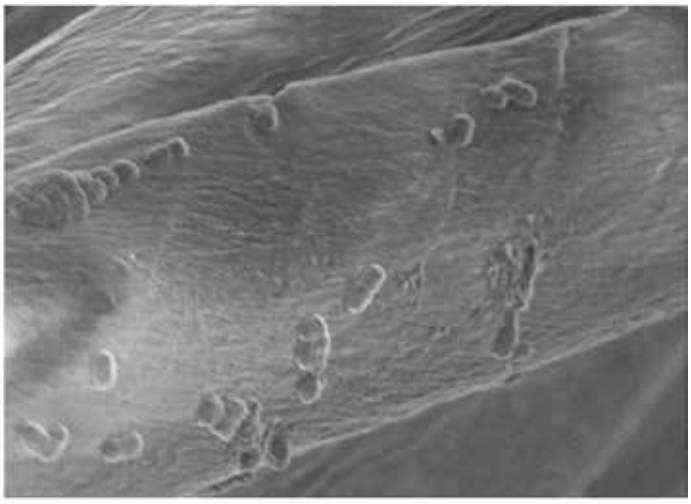
Experimental: Two highly silver-resistant bacteria (Silver-resistant *Enterobacter cloacae* and Silver-resistant *Klebsiella pneumonia*) were tested against a number of different commercially available silver-based wound dressings. In addition, the ability of these unique microorganisms to bind to DACC-based dressing was examined.

Results: Scanning Electron Microscopy revealed DACC dressing's ability to bind highly silver-resistant bacteria. Dressings with the DACC Technology have the ability to sequester bacteria without the risk of developing resistance providing a key alternative to silver-based dressing while promoting antimicrobial stewardship.

DACC Technology proven to effectively bind silver-resistant bacteria.



Silver-resistant *Enterobacter cloacae* bound to DACC coated dressing.



Silver-resistant *Klebsiella pneumoniae* bound to DACC coated dressing.

DISCOVER THE DACC DIFFERENCE

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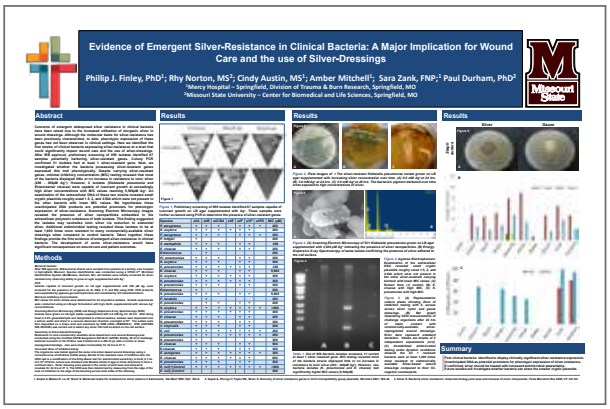


Silver Resistance: Clinical Proof

Evidence of Emergent Silver-Resistance in Clinical Bacteria: A Major Implication for Wound Care and the Use of Silver Dressings

Author: P. Finley, PhD, et al.

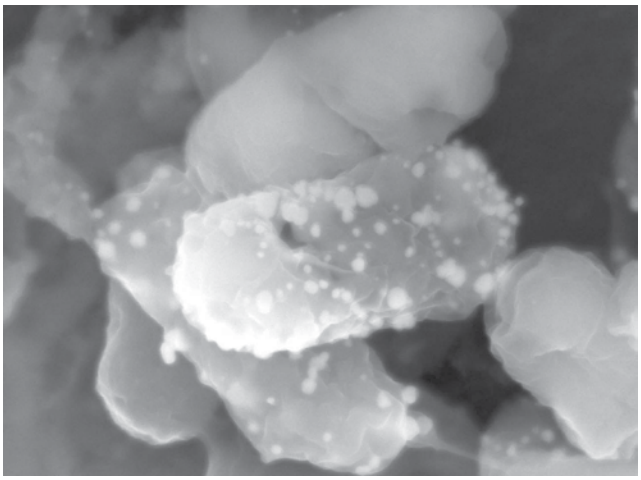
Published: 2014 SAWC Fall Conference, 1st-place award winning research

Methods: Different assays were performed including PCR, Minimum Inhibitory Concentration testing, Scanning Electron Microscopy (SEM), Energy Dispersive X-ray Spectroscopy (EDS), Corrected Zone of Inhibition testing, Agarose Electrophoresis, and Immobilized antimicrobial testing under dynamic conditions.

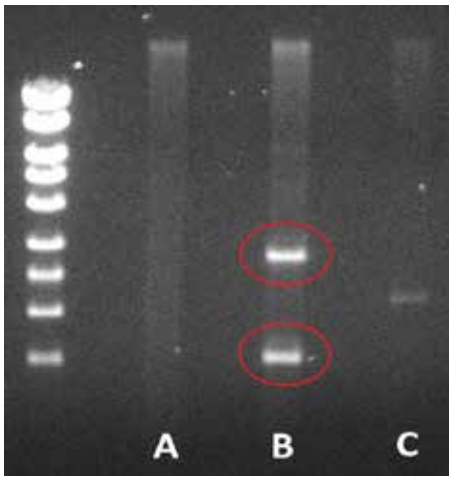
Experimental: 859 clinical bacterial strains were isolated from patients at a tertiary care hospital.

Results: *Klebsiella pneumoniae* and *Enterobacter cloacae* isolated from patients at a Level-1 hospital were capable of significant growth despite exposure to exceedingly high silver concentrations. These isolates were resistant to many commercially-available wound dressings impregnated with silver. Taken together, these results provide the first evidence of clinical bacteria capable of expressing silver resistance at levels that could significantly impact patient care and wound management.

The most commonly known silver dressings could not eradicate the silver-resistant *Klebsiella.*



Instead of killing the bacteria, silver was embedded to the cell wall and then neutralized, allowing the bacteria to keep growing.



Unexpected DNA products were found in these bacteria which may have some role in silver-resistance.

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