

Comparison of the Antibacterial Effectiveness of Acticoat® and Silverlon® when used with Integra®

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Introduction: Silver, with its broad-spectrum antimicrobial properties and biocompatibility for human tissue, has a long been used for burn and wound care. The goal of this study was to compare the antibacterial effectiveness of two silver containing primary contact wound dressings when used with Integra® Artificial Skin.

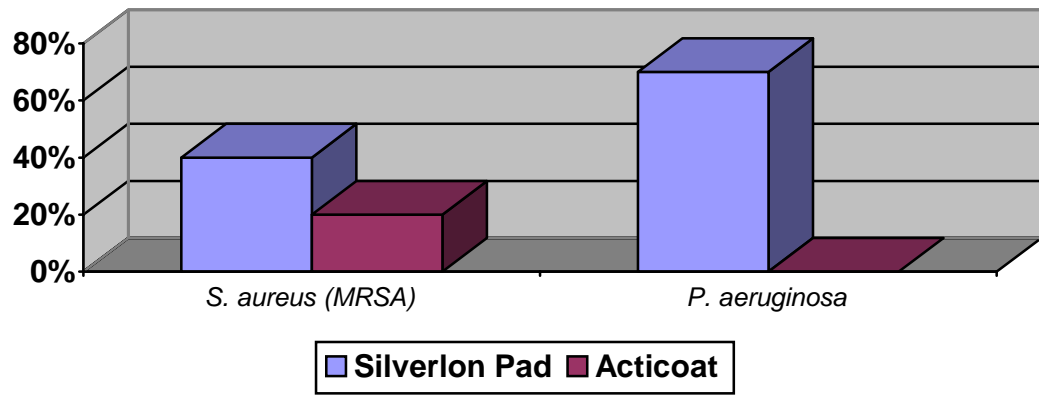
Methods: The Integra® was prepared according to manufacturer’s directions to remove the ETOH preservative. The Integra® was cut into spares measuring 1.5 in², a seam was created in each square to simulate two pieces of Integra being joined together to cover a wound. The Integra® pieces were centered on each standard blood agar plate. Each piece of Integra® was completely covered with a 2 inch square piece of the Silverlon® and Acticoat® and incubated at 37^oC for 24 hours. At 24 hours, two drops (≈100 microliters) of a suspension containing >10⁵, colony forming units per milliliter of *Pseudomonas aeruginosa* or *Staphylococcus aureus* were added to the center of each dressing, simulating contamination in the post-operative patient. The dressings were re-moistened and incubated for 48 hours. After 48 hours, the dressings and the Integra® were carefully removed using sterile technique. Cultures were obtained from the area of the plate that was once covered with Integra, being sure to swab across the area where the seam in the product had been. Fresh agar plates were streaked with these samples and incubated for 24 hours.

The results are noted in the chart below.

Time	Percent Negative Culture Under Dressing @ 48 Hours			
	<i>Staphylococcus aureus</i> (MRSA).		<i>Pseudomonas aeruginosa</i>	
	Silverlon® Pad	Acticoat	Silverlon® Pad	Acticoat
48 Hr	40%	20%	70%	0%

Conclusion: When used in conjunction with Integra® Artificial Skin, Silverlon® Pad provided superior results at inhibiting the growth of both *Pseudomonas aeruginosa* and *Staphylococcus aureus* when compared to Acticoat®.

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