



# The Untapped Opportunity

To Reduce Surgical  
Infections

# PRODUCT BENEFITS



**IN SURGERY PROTECTION**

Best Line of Defense for Infection

**ENHANCE ASEPTIC TECHNIQUE**

Reduced 99.98% of bioburden  
in a human clinical study

**DISRUPT BIOFILMS**

The key to exposing bacteria for  
effective removal

**NON-ANTIBIOTIC PRODUCT**

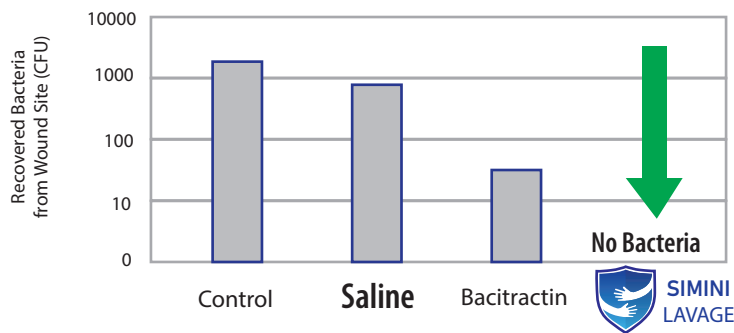
Can remove resistant  
bacteria including MRSP

# Simini Protect Lavage

## KEY DATA SUMMARY



### Improvement over Saline



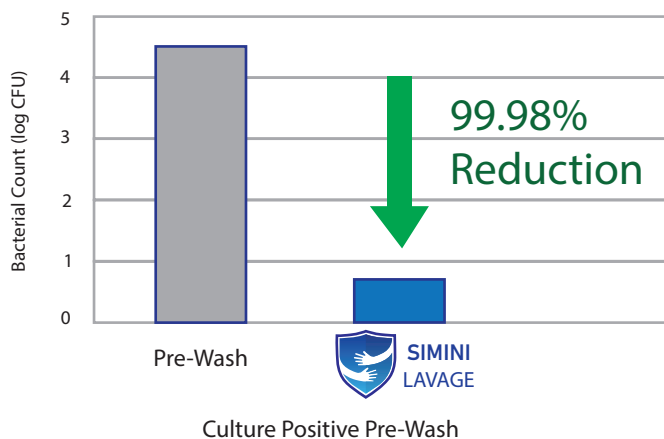
### Murine Surgical Model

Staph. Aureus  
Bacteria removal from surgical wound  
(50 CFU inoculum, 40-60 minute growth)

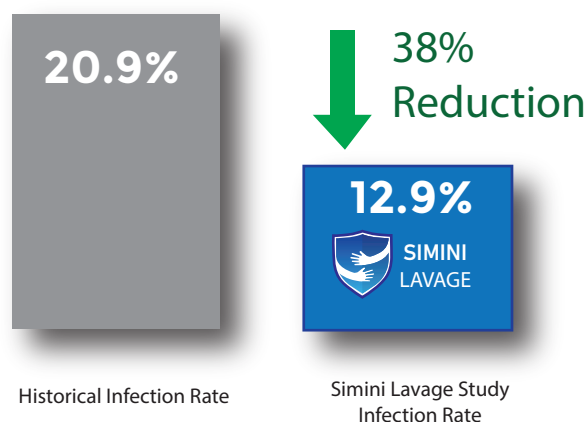
Texas Tech University  
Surgical Murine Model with Biofilm

## CLINICAL DATA

### Reduced Bioburden



### Reduced Infection



### Human Clinical Study

40 prosthetic joint infection patients (Total knee replacement)  
(Infection rate 90-day post revision surgery)

Hunter et al., "Clinical Effectiveness of a Biofilm Disrupting Surgical Lavage in Reducing Bacterial Contamination in Total Knee Arthroplasty Revision Surgery in Known Cases of Prosthetic Joint Infection"; Zimmer Biomet white paper. (administered 1 litre volume via pulsed jet lavage)

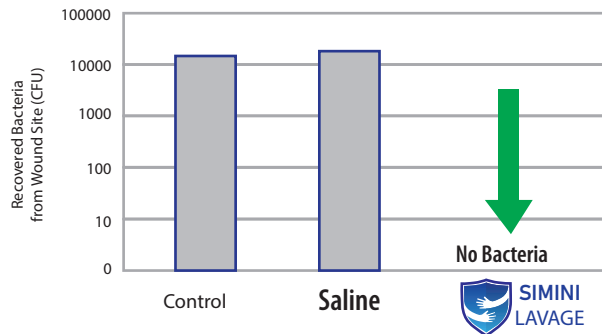
\* Wu et al., "Arthrodesis Should be Strongly Considered After Failed Two-Stage Reimplantation TKA" Clin Orthop Relat Res (2014) 472:3295-3304

# The Untapped Opportunities

## Filling the Gaps in Infection Control

Removing bioburden from surgical wounds<sup>1</sup>

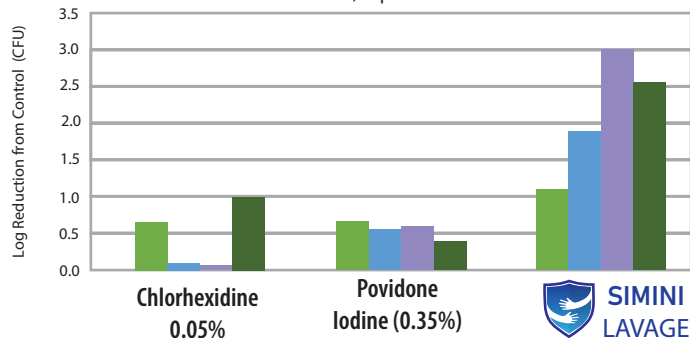
Pseudomonas A. (Bacteria removal from surgical wound)  
Texas Tech University Murine Surgical Model  
(50 CFU inoculum, 40-60 minute growth)



Antimicrobial therapy is futile against biofilm<sup>1</sup>

■ Staph. Aureus ■ S. Epidermidis ■ Pseudomonas A. ■ P. Acnes

MSU Biofilm Efficacies of Lavages - 1 minute static  
72-hour biofilm, drip flow reactor model



1. Verwilghen, D., Singh, A., "Fighting surgical site infections in small animals: are we getting anywhere?," Vet Clin North Am Small Anim Pract. 2015 Mar;45(2):243-76

## Product Ingredients



- Ethanol
- Acetic Acid
- Sodium Acetate
- Benzalkonium Chloride (0.13%)
- Water

## Safety Studies

ISO Intramuscular Implantation Test with Histopathology  
(14 day rabbit study) - Simini Protect Lavage

- No abnormal clinical signs
- Lavage was considered a "Non-Irritant" as compared to predicate device

Dermal Testing - Uninfected wounds

(14 day porcine study) - Simini Protect Lavage

- Lavage resulted in normal wound healing and was comparable to a predicate device