

BACKGROUND

Effective removal of non-viable tissue is essential for wound healing. Mechanical debridement tools can be effective, easy to use, and cost-conscious solutions when used appropriately.

During a two-week humanitarian medical mission in the Kingdom of Tonga, three mechanical debridement tools were utilized equally across patients to evaluate effectiveness, ease of use, and clinician preference.

PURPOSE

To compare the performance, ease of use, clinician preference, and cost considerations of three mechanical debridement tools used equally in wound bed preparation during a humanitarian mission.

METHODS

- Prospective, observational evaluation
- Three mechanical debridement tools were used equally with 10 patients each (N=30 total)
- Wound types: diabetic foot ulcers, venous leg ulcers, pressure injuries, traumatic wounds, and other chronic wounds
- Clinicians assessed performance, ease of use, patient tolerance, and preference
- Outcomes assessed: debridement effectiveness, time to use, ease of use, device footprint (reusability), and cost

Our Team in Tonga

Working together
to heal and educate.



1. HISTOLOGICS® SOFT K-COT®

Finger Scrubber (Non-Reusable)



Soft, textured surface designed for effective removal of non-viable tissue.

Patients (n)	10
Total Uses	Equally used (10 patients)
Debridement Effectiveness (Removal of Slough/Non-viable Tissue)	★★★★★ (Excellent)
Ease of Use	★★★★★ (Excellent)
Patient Tolerance	★★★★★ (Excellent)
Average Time to Debride (Per Wound)	⌚ 2–3 minutes
Device Footprint	Single-Patient Use (No Reprocessing)
Relative Cost per Use (USD)	\$0.30 – \$0.50



PREFERRED DEVICE

Favored for ease of use, non-reusable design, small supply footprint, and lowest cost.

2. EZDEBRIDE®

Single Use White Toothbrush
Debridement Device



Soft bristles for safe, efficient debridement of wound bed.

Patients (n)	10
Total Uses	Equally used (10 patients)
Debridement Effectiveness (Removal of Slough/Non-viable Tissue)	★★★★☆ (Very Good)
Ease of Use	★★★★☆ (Very Good)
Patient Tolerance	★★★★☆ (Very Good)
Average Time to Debride (Per Wound)	⌚ 2–3 minutes
Device Footprint	Single-Patient Use (No Reprocessing)
Relative Cost per Use (USD)	\$1.00 – \$1.50

EFFECTIVE & WELL TOLERATED

Single-use convenience, but higher cost compared to Histologics Soft K-Cot.

3. XSONIX®

Electric Scrubber
(Reusable)



Rotating brush head for thorough and consistent debridement.

Patients (n)	10
Total Uses	Equally used (10 patients)
Debridement Effectiveness (Removal of Slough/Non-viable Tissue)	★★★★☆ (Very Good)
Ease of Use	★★★☆☆ (Good)
Patient Tolerance	★★★★☆ (Very Good)
Average Time to Debride (Per Wound)	⌚ 2–3 minutes
Device Footprint	Reusable (Requires Reprocessing)
Relative Cost per Use (USD)	\$2.50 – \$3.50+

EFFECTIVE BUT HIGHER COST

Reusable system requires reprocessing and has higher cost per use.

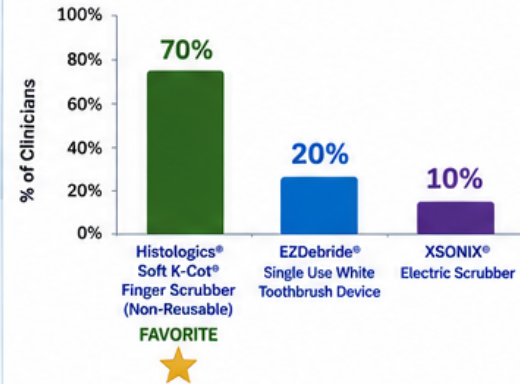


KEY OUTCOMES (N=30 Patients / 30 Total Uses)

- ✓ All three tools were effective in removing slough and non-viable tissue
- ✓ All three tools were well tolerated by patients
- ✓ All three tools supported improved wound bed quality and preparation for healing
- ✓ No adverse events related to any of the tools



OVERALL CLINICIAN PREFERENCE (After Equal Use with 10 Patients Each)



WHY THE SOFT K-COT WAS THE CLEAR FAVORITE

- ✓ Extremely easy to use – minimal training required
- ✓ Excellent tactile control and access to wound bed
- ✓ Single-patient use – no reprocessing or cross-contamination risk
- ✓ Lowest cost per use – most economical option
- ✓ Lightweight and compact – minimal supply footprint
- ✓ Consistent performance across all wound types

CLINICAL IMPLICATIONS

- Non-reusable, single-patient use tools can provide excellent wound bed preparation in resource-limited environments.
- The Soft K-Cot offers an optimal balance of effectiveness, ease of use, safety, and cost.



LIMITATIONS

- Small sample size (N=30)
- Short duration of follow-up
- Observational design
- Study conducted during a single mission



ACKNOWLEDGMENTS

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REFERENCES

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ACCESS THE FULL WHITE PAPER

Scan the QR code to download the full white paper, including methods, demographics, detailed outcomes, and references.

