

# The Use of a Hypochlorite Free Pure Hypochlorous Acid Preserved Gel\* on a Cross Section of High Risk Wound Patients in a Busy Wound Center.

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## Introduction

While use of hypochlorite free Pure Hypochlorous Acid (pHA) based liquid cleansers\*\* is now well accepted in wound-bed preparation practice, use of the moist wound dressing in antimicrobially preserved gel form also containing pHA would be a logical addition. Recently, an antimicrobial pHA-gel product became available to our busy wound clinic. The idea was to use pHA-gel on sloughy, somewhat dry, necrotic wounds that appear initially contaminated, and to monitor progress over time.

## Methods and Materials

78 wounds (31 venous, 21 diabetic, 17 arterial, and 9 other wound types -6 post-Moh's and 3 trauma) were evaluated (Figure 1). In clinic, wounds were soaked with pHA-solution for 5-10 minutes per our standard of care for such wounds, then surgically debrided. After, pHA-gel was applied to wound bed and small overlapping surrounding area of wound borders. Patients were instructed to apply pHA-gel in the same manner during scheduled dressing changes at home, either by themselves or by home nursing. Various secondary dressings were used to check gel compatibility. Progression of necrotic/granular tissue levels and wound sizes was monitored using AI wound imaging and wound analytics based EMR-system. Wounds were monitored over the course of 4-6 weeks, with an average of 38 days.

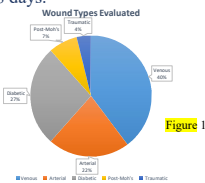


Figure 1

## Methods and Materials

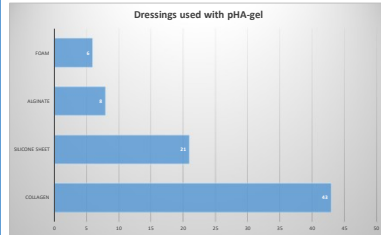


Figure 2

## Results

In tabular format, 78 wounds were evaluated for wound size, necrotic tissue, inflammation and infection responses. Also noted, secondary dressings used (Fig2) and patient pain experiences during dressing changes/debridement according to pain visual analogue scale. Figure 3 depicts the reduction in wound size from initial day of evaluation to end day evaluation (average of 38 days). Figure 4 follows one wound's progression with use of pHA-gel. Figure 5 shows the average pain score on Day 1 vs the last day of evaluation.



Figure 4: Example of progression of wound, desloughing, and peri-wound improvement with use of pHA-gel

## Results

In 51 wounds, there was existing infection before protocol initiation. In each infected case, one round of oral antibiotics was concurrently used with this dressing protocol. Three cases required a second round of oral antibiotics. Of the other 27 cases that did not require antibiotic therapy initially, 2 developed an infection later treated with oral antibiotic therapy.

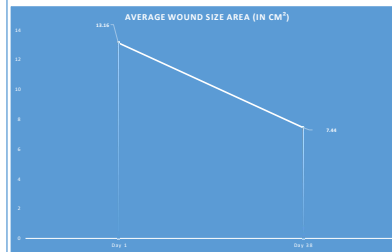
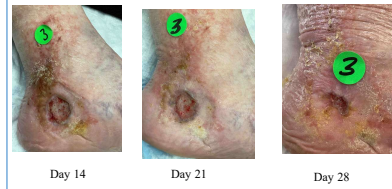


Figure 3



## Results

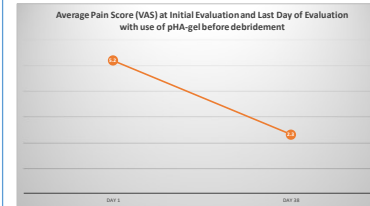


Figure 5

## Discussion

The pHA gel's ability to manage wounds is evaluated here, after standard of care cleansing with pHA solution. In previous studies, soaking in pHA-cleanser assists surgical debridement by pre-loosening slough, thereby reducing extent of surgical debridement, possibly reducing pain during debridement. We hypothesized that using additional pHA-gel during subsequent dressing changes would reduce dry, necrotic slough buildup overtime, thereby reducing pain and additional surgical debridement. We believe results here are positively suggestive of that hypothesis. Of interest is low re-infection rate of those already infected as well as those infected while on this protocol. We hypothesize and this can be subject of a RCT, that it is possible that this combination can reduce use of expensive antimicrobial dressings and prevent re-infections. Overall, we believe use of both pHA-cleanser and pHA-gel is an excellent adjunct for reducing pain and slough during surgical debridement and for controlling bacterial burden between dressing changes. Debridement (autolytic, but specific in nature and extent to this formulation) brought about this product is worthy of note.

## References

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## Acknowledgments

- \*Vashe Antimicrobial wound gel
- \*\*Vashe Wound Solution
- Both of Urgo Medical North America, Ft Worth, TX
- Created and presented with the support of Urgo Medical, North America