Never Compromise

Safety or Efficacy

vashe®

A PURE HYPOCHLOROUS ACID-PRESERVED ANTIMICROBIAL CLEANSER

Process variation leads to unpredictable outcomes.

NSWOCs by the numbers:

4+
86% reported on average **4+ departments** are involved in wound treatment[1]

4+
An average of **4+ prescribers** are involved in wound treatment plan[1]

4+
Almost ½ have **4+ cleansers** to choose from for wound treatment[1]

3 in 4
3 in 4 don't believe their care orders are being followed[1]

1,5 in 100,000
On average, there are 1,5 NSWOCs **per 100,000** patients[2]

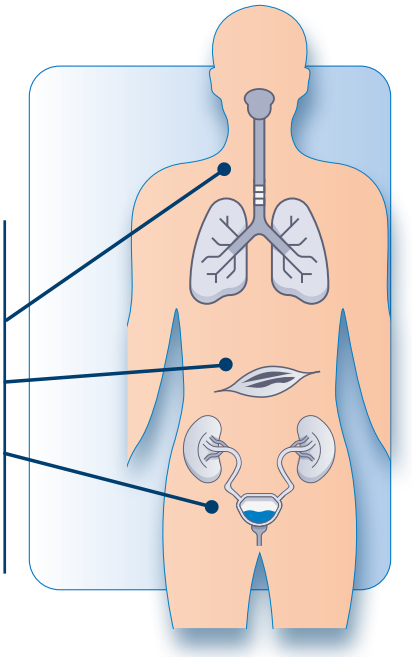
Wounds remain the final frontier of non-standardized practice to prevent infection from invading pathogens.

APIC defines a wound as any disruption of normal anatomic structure and function including skin and tissue.[3]

This disruption, or non-intact skin, creates a portal of entry for infection where opportunistic pathogens may enter, resulting in an increased risk to the patient.[3]

All other high-risk portals of entry have a standardized protocol and product bundle to prevent infection.

Why are wounds and non-intact skin left behind?



Historic options forced you to compromise.

Comparing safety, efficacy, and pH across historic wound treatment options

	Safety*	Efficacy	pH of Human Skin	Guideline Recommended**
Dakin's/ sodium hypochlorite	⊗	✓	⊗	⊗
Saline	✓	⊗	✓	⊗
CHG	⊗	✓	⊗	⊗
Acetic Acid	⊗	✓	⊗	⊗
PHMB	⊗	✓	⊗	⊗

*Non-cytotoxic on keratinocytes and fibroblasts **Consensus Guidelines Recommendations from the NPIAP, IWII, and WHD/WRR

The highest levels of evidence have recognized these gaps in clinical practice.

National Pressure Injury Advisory Panel
International Guidelines 2019

JWC International Consensus Guidelines:
Hard-to-Heal Wounds 2020 & Wound Debridement 2023

International Wound Infection Institute:
Wound Infection in Clinical Practice 2022

Wound Repair and Regeneration:
Treatment Guidelines 2022

Wounds International
Consensus Document 2023

Multidisciplinary Expert Consensus Statement
Recommendations for Use of Hypochlorous Acid 2023

- Limited evidence exists on the **ability of saline to address high levels of microbes or bacteria**[4,5]
- Using a cleanser that can **remove or disrupt biofilm is a critical component** to wound healing.[4,5]
- The ideal cleansing solution should balance the need for **removal of biofilm** while **avoiding damage** to key wound healing cells. [4-7]
- Traditional cleansers such as hydrogen peroxide, **traditional sodium hypochlorite (e.g. Dakin's solution)**, povidone-iodine and chlorhexidine are **proven to be cytotoxic** to necessary healing cells.[4-7]

Enter: pure hypochlorous acid

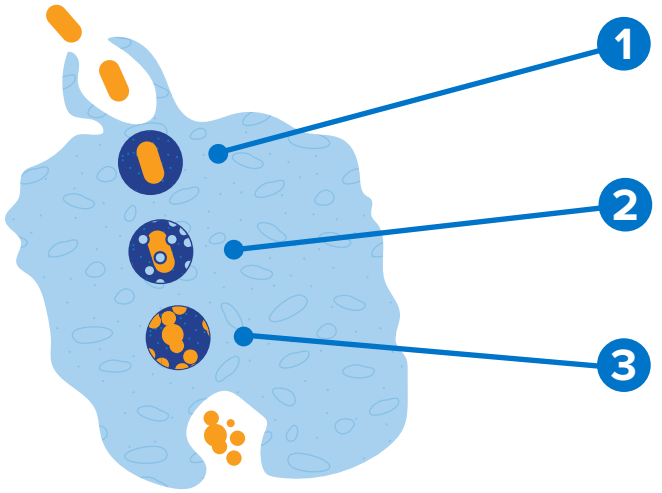
Hypochlorous acid meets the highest standards for safety and efficacy, is abundant at the ideal pH for human skin, and its use is recommended by international guidelines.

	Safety[1]	Efficacy	Ideal pH	Guideline Recommended[2]
pHA *Pure* hypochlorous acid	✓	✓	✓	✓

- Hypochlorous and Hypochlorite both have potent antimicrobial activity; however, hypochlorite is cytotoxic and possesses a lower therapeutic index than HOCl.[8]
- HOCl can be used to assist (amplify) various standalone debridement methods, such as mechanical debridement, selective sharp/surgical debridement and technical methods including NPWTi-d with ROCF.[9]

Does your facility's nurse-driven protocols align to evidence-based guidelines?

Pure Hypochlorous Acid is used by the human body as a natural response to invading pathogens.



1. Pathogens are targeted and engulfed by white blood cells.
2. **Hypochlorous acid (HOCl)** is generated within the white blood cell.
3. Pathogens are destroyed by HOCl action.

vashe® (*p*HA) is the solution.

Proven effective against fungi, spores, viruses and multi-drug resistant bacteria

Vashe efficacy against pathogens[10-12]

Organism	Time to kill	% Reduction
MRSA	15 seconds	99.999%
VRE	15 seconds	99.999%
Escherichia coli	15 seconds	99.999%
Acinetobacter baumannii	15 seconds	99.999%
Bacteroides fragilis	15 seconds	99.999%
Candida albicans	15 seconds	99.999%
Enterobacter aerogenes	15 seconds	99.999%
Enterococcus faecium	15 seconds	99.999%
Haemophilus influenzae	15 seconds	99.999%
Klebsiella oxytoca	15 seconds	99.999%
Klebsiella pneumoniae	15 seconds	99.999%

Organism	Time to kill	% Reduction
Micrococcus luteus	15 seconds	99.999%
Proteus mirabilis	15 seconds	99.999%
Pseudomonas aeruginosa	15 seconds	99.999%
Serratia marcescens	15 seconds	99.999%
Staphylococcus epidermidis	15 seconds	99.999%
Staphylococcus haemolyticus	15 seconds	99.999%
Staphylococcus hominis	15 seconds	99.999%
Staphylococcus saprophyticus	15 seconds	99.999%
Streptococcus pyogenes	15 seconds	99.999%
Staphylococcus aureus	15 seconds	99.995%
C. difficile endospores	15 seconds	99.93%

Pure hypochlorous acid (*p*HA) has the ability to disrupt biofilm after short exposure[13]

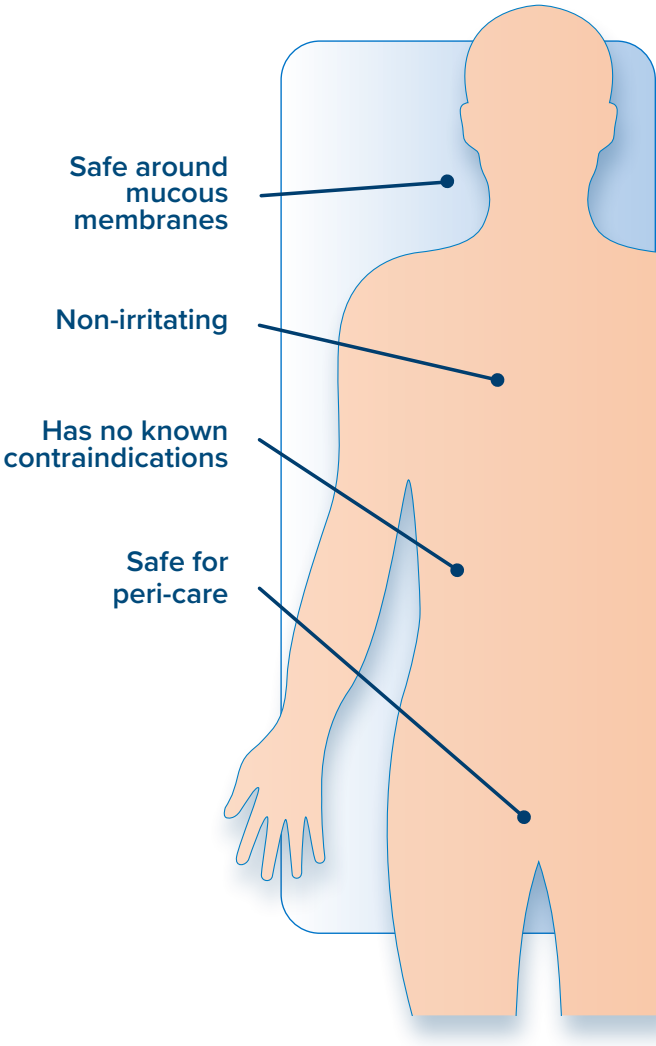
There is no known clinically relevant resistance to ***p*HA** unlike other solutions (antimicrobials and antibiotics)

Proven safety from head to toe

Safe for key cells

Comparative Cytotoxicity Testing of Hypochlorous Acid and Commonly Used Wound Irrigants[1]

Wound Irrigant	Results	% Cell Survival (Fibroblasts & Keratinocytes)
Pure **Hypochlorous Acid (330 ppm)**	**Pass**	**> 75%**
Saline (0.9% NaCl, pH 5.0)	Pass	> 75%
Dakin's/Sodium Hypochlorite (0.25%)	Fail	< 25%
Dakin's/Sodium Hypochlorite (0.5%)	Fail	< 25%
Chlorhexidine gluconate (4%)	Fail	< 25%
Hydrogen peroxide (3%)	Fail	< 25%
Povidone iodine (7.5%)	Fail	< 25%
Povidone iodine (10%)	Fail	< 25%
PHMB	Fail	< 25%

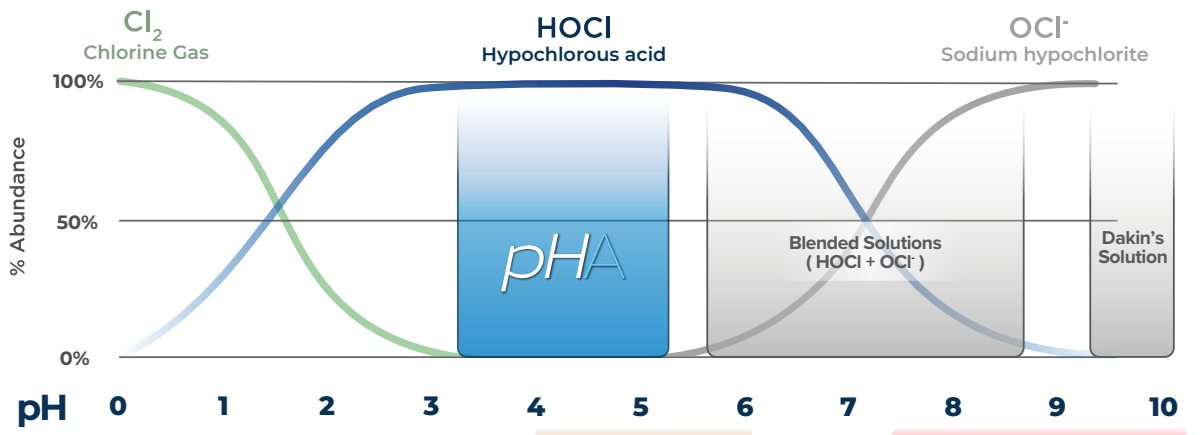


vashe® is the market leader in *Pure* Hypochlorous Acid.

- The **#1 hypochlorous acid solution** in North America
- The **#1 branded cleanser** in North America
- Clinically proven with **20+ peer-reviewed publications**
- The market leader of pure hypochlorous acid for **10+ years**

The connection of pH to wound healing

Chlorine, Hypochlorous Acid, and Sodium Hypochlorite Abundance Based on pH + Relative pH of Wound Types and Various Solutions Used



Healthy, Intact Skin – pH 4.0-6.0[14-18]
(Acidic environment)

- Higher antimicrobial properties
- Favorable to wound healing
- Preserves skin function
- Increased macrophage and fibroblast activity
- Ensures stratum corneum cohesion and barrier function

Vulnerable Skin – pH >7.5[14]
(Alkaline environment)

- Allows pathogens to thrive[19]
- Impedes the healing process[19]
- Inflammation and irritation[14]
- Same pH as Chronic wounds[20]

vashe® in clinical practice

The effectiveness and versatility of a pHA cleanser allows for practice standardization. Vashe can be delivered through cleansing, packing and soaking for a variety of skin and wound.[1]

Chronic Wounds
- Venous leg ulcers
- Diabetic foot ulcers
- Pre & post debridement

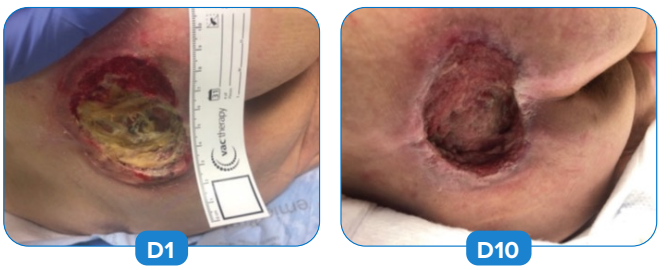
Complex Wounds
- Pressure injuries
- Burns
- Trauma wounds
- Grafted/donor sites
- Pediatrics

Non-Intact Skin
- IAD/MASD
- Diaper dermatitis
- Intertrigo
- Skin tears

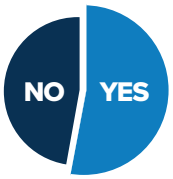
Infection Prevention
- Post-surgical incisions
- Stoma-site infections
- Central lines
- Trach tubes
- G-tubes

Case study: pediatric burn[21]

Case study: pressure injury[22]



Eliminate process variation through implementation of evidence-based care



When asked, almost **half** of clinicians said evidence-based practice is only attainable with continuous education and compelling evidence.[1]

Standardize the process

Implement an evidence-based, custom protocol that meets the facility's needs & latest consensus guidelines

Standardize the product

Use a versatile solution that's appropriate for use in all departments

Empower the staff

Access top-level education through webinars, in-person instruction, or via many peer-reviewed publications

Scan here to discuss a custom protocol contact your URGO Account Manager or call 1-888-446-4143

Investing in outcomes: the economic benefits of pHA

Venous leg ulcers

Vashe was instituted into the care of patients suffering from long-standing refractory VLU's. Using Vashe resulted in greater quality of life for patients in addition to faster healing than baseline rates.[23]

Conclusions

$0.84
Cost of Vashe per day

$2,695
Cost savings per VLU

NPWT-iD

A study was conducted among 24 patients with complex wounds including: necrotizing fasciitis, trauma, and pressure injuries. Negative Pressure wound therapy with instillation was initiated with Vashe vs. saline.[24]

Conclusions

7-Day
healing time **reduction**

$141,280
Cost savings per patient

Complex wounds

17 adult patients with complex wounds, of multiple etiologies, were randomly assigned to receive either Vashe or saline irrigation during low frequency ultrasonic debridement.[25]

Conclusions

55%
Less complications

$3K-33K
Cost savings per complication

Scan here to download a recently published white paper on the economic and quality impacts of using *Pure* Hypochlorous Acid

Addressing patient comfort

A study was conducted in an outpatient wound center where Vashe was used for general cleansing on 31 patients. This study found that:

- **86% of chronic wounds healed**
- **Pain was reduced from 4.7 visual analog scale (VAS) to 0 at the end of the evaluation**
- **Odor was reduced from 4.58 VAS to 0 at the end of the evaluation[26]**

Enabling continuity of care

The majority of wound resolution occurs beyond the hospital.

17-23% of severe wound patients are **readmitted to the hospital.**[27]

22% of pressure injury patients are **readmitted within 30 days.**[27]

With **Vashe OTC**, evidence-based care does not have to stop upon discharge.

Order online

amazon

Vashe ordering information

Bottle Size/ Pack Size	Pour-Top Catalog Code	Instillation Bottle Catalog Code
4.0 fl. oz. (118 ml) Bottles/24-Pack	00312	Not available
8.5 fl. oz. (250 ml) Bottles/12-Pack	00313	00316
16.0 fl. oz. (475 ml) Bottles/12-Pack	00314	00317
34.0 fl. oz. (1 Liter) Bottles/6-Pack	00322	00323

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