

| REF#  | Description     | Packaging                 |
|-------|-----------------|---------------------------|
| 60504 | 4 oz. Bottle    | Flip-Top Bottles          |
| 60491 | 8.5 oz. Bottle  |                           |
| 60691 | 16.9 oz. Bottle |                           |
| 60507 | 8 oz. Bottle    | Trigger Spray Bottles     |
| 60690 | 16 oz. Bottle   |                           |
| 60799 | 250 ml Bottle   | Instill/Spikeable Bottles |
| 60798 | 500 ml Bottle   |                           |
| 60781 | 990 ml Bottle   |                           |



To Learn More or Request Samples

Contact HR Pharmaceuticals:

[renovarwoundcare.com](http://renovarwoundcare.com) | 877.302.1110 | [inquiries@hrpharma.com](mailto:inquiries@hrpharma.com)

1 <https://www.dovepress.com/opportunities-and-challenges>  
 2 <https://www.healogics.com/2022-healing-cant-wait>  
 3 [www.thewca.com/2022/06/01/why-wound-care-matters](http://www.thewca.com/2022/06/01/why-wound-care-matters)  
 4 <https://www.healogics.com/why-wound-care-is-important>

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LBL-0071 Rev. 0 (09/2023)



## Chronic Non-Healing Wounds Are Debilitating

Despite extensive efforts to develop therapeutic strategies for the effective treatment of chronic wounds, limited clinical success has been achieved, which negatively affects the quality of life for patients and induces exorbitant costs to the global healthcare systems.<sup>1</sup>



**1 in 4 people**

with diabetes will experience a diabetic foot ulcer<sup>2</sup>



**Every 30 seconds**

a diabetic patient suffers an amputation<sup>3</sup>



**Every 4 seconds**

a patient develops a wound in the US<sup>3</sup>



**7 million people**

suffer from chronic, non-healing wounds<sup>4</sup>

With complex diseases and many risk factors on the rise in society, it is vital to have protocols and solutions in place that will assist in wound management.

### Chronic Wound Risk Factors:

- Poor Diet
- Smoking
- Infection
- Aging
- Diabetes
- Weight
- Arthritis
- Kidney Disease
- Swelling
- Certain Medications
- High Blood Sugar
- Circulation Problems

## Restore With Renovar™

Renovar is a fast-acting, non-cytotoxic, antimicrobial wound care solution that helps keep the wound bed clean and free of contaminants and debris, which is essential for wound healing without infection.

- **No Known Contraindications or Side Effects**

No report of any serious adverse effects.

- **Neutral pH Level**

pH level of 6.2 - 7.8 remains active and stable for the full 24-month shelf life.

- **Isotonic | Non-Sensitizing**

Keeps the tissue supple and does not break down healthy skin.

- **Non-Toxic, Power Solution**

No added antibiotics or harsh, stinging chemicals. Effective in cleansing, irrigating and moistening wounds to help ensure a sterile environment and speed up the healing process.



## Safe Healing Starts with Renovar™

Renovar is safe to be used at the discretion of the treating clinician for cleansing the wound, relieving irritation and reducing the risk of infection.

**Super-Oxidized-Solution:** Performs better than povidone iodine and saline in promoting healing and can lead to a 33% faster healing rate.

**Antimicrobial/Antibacterial:** Effective against a broad spectrum of gram-negative and gram-positive bacteria, reducing the risk of infection.

**Fast-Acting Formulation:** Kills bacteria and yeast species while breaking down biofilm in an impressive 30 seconds, allowing healthy tissue to form.

**Ease of Use:** Non-irritating, ready-to-use solution for a wide variety of wound types that can be combined with other wound healing products and debridement methods.



## Accelerated Healing with HOClean™ Technology

Utilizing Renovar Advanced Skin and Wound Care Solution, featuring HOClean Technology mimics the natural hypochlorous compound produced by the human body's natural inflammatory response to remove contaminants and debris during phagocytosis.

As neutrophils encounter contaminants within the wound bed, they encapsulate the cell membrane and generate HOCl.



The HOCl binds to critical cell membrane components, affecting the cell's permeability. Once this happens, the cell membrane will rupture, causing the bacteria cells to disintegrate.



Combining this process with our Super-Oxidized-Solution increases the flow of oxygen to the wound bed and, therefore **helps speed up the healing process.**

## Proven and Versatile Solution

Renovar is a versatile solution useful in the treatment, debridement, exudate management, and healing promotion for the following wounds:

- Stage I-IV Pressure Ulcers
- Stasis Ulcers
- Partial and Full Thickness Wounds
- Diabetic Foot Ulcers
- Post Surgical Wounds
- 1st and 2nd Degree Burn
- Grafted and Donor Sites
- Abrasions and Minor Irritations of the Skin
- Ingrown Toenails
- Exit Sites (catheter sites)

## Healing for Every Phase

Renovar is useful for the following wound healing phases as deemed appropriate by a clinician:

### Hemostasis:

To clean the wound, provide hydration, and give better visualization for examination of the wound bed.

### Inflammatory:

To cleanse, debride, remove biofilm, and irrigate the wound bed. During this phase, natural HOCl is released to fight infection during phagocytosis.

### Proliferation:

For cleaning, debriding, removing biofilm, and irrigating the wound bed. Here, granulation begins, and the wound starts to close.

### Maturation:

Used prophylactically in conjunction with other compatible products to provide moisture and aid in the final healing process.



**70-80% of patients will fully heal in 8 weeks if wound care is received<sup>2</sup>**

## Established Reliability

Renovar™ Advanced Skin and Wound Care Solution demonstrates in-vitro activity against a broad spectrum of gram-negative and gram-positive bacteria while breaking down biofilm **in just 30 seconds**, allowing healthy tissue to form and reducing the risk of infection.

| Microorganisms Kill Chart    |                         |              |                   |
|------------------------------|-------------------------|--------------|-------------------|
| Name of Organism             | Log Reduction (30 sec.) | Time to Kill | Percent Reduction |
| Acinetobacter baumannii      | 6.3692                  | 30 seconds   | 99.9999%          |
| Bacteroides fragilis         | 7.6435                  | 30 seconds   | 99.9999%          |
| Candida albicans             | 6.3345                  | 30 seconds   | 99.9999%          |
| Enterobacter aerogenes       | 6.0881                  | 30 seconds   | 99.9999%          |
| Enterococcus faecalis-VRE    | 6.3646                  | 30 seconds   | 99.9999%          |
| Enterococcus faecium-VRE MDR | 6.5119                  | 30 seconds   | 99.9999%          |
| Escherichia coli             | 5.699                   | 30 seconds   | 99.9999%          |
| Haemophilus influenzae       | 5.1775                  | 30 seconds   | 99.9999%          |
| Klebsiella oxytoca-MDR       | 6.0492                  | 30 seconds   | 99.9999%          |
| Klebsiella pneumoniae        | 6.143                   | 30 seconds   | 99.9999%          |
| Micrococcus luteus           | 5.842                   | 30 seconds   | 99.9999%          |
| Proteus mirabilis            | 6.2028                  | 30 seconds   | 99.9999%          |
| Pseudomonas aeruginosa       | 5.8096                  | 30 seconds   | 99.9999%          |
| Serratia marcescens          | 5.9978                  | 30 seconds   | 99.9999%          |
| Staphylococcus aureus-MRSA   | 6.3454                  | 30 seconds   | 99.9999%          |
| Staphylococcus aureus        | 6.2266                  | 30 seconds   | 99.9999%          |
| Staphylococcus epidermidis   | 6.0233                  | 30 seconds   | 99.9999%          |
| Staphylococcus haemolyticus  | 5.9112                  | 30 seconds   | 99.9999%          |
| Staphylococcus hominis       | 5.4456                  | 30 seconds   | 99.9999%          |
| Staphylococcus saprophyticus | 5.959                   | 30 seconds   | 99.9999%          |
| Streptococcus pyogenes       | 6.716                   | 30 seconds   | 99.9999%          |

Renovar is **fast-acting in killing bacteria** within the wound bed. It is persistent and continues to work over time, prohibiting the growth of bacteria.

| Preservative Testing - Successfully Meets USP Category 1 Criteria |   |   |   |
|---|---|---|---|
| Organism  | Results Day 7                                       | Results Day 14  | Results Day 27                                |
| P. aeruginosa ATCC 9027   | > 1 log reduction from the initial calculated count | > 3.0 log reduction from the initial calculated count | No increase from the Day 14                   |
| E. coli ATCC 8739   |   |   |   |
| S. aureus ATCC 6538   |   |   |   |
| C. albicans ATC 10231   | No increase from the initial calculated count       | No increase from the initial calculated count         | No increase from the initial calculated count |
| A. niger ATCC 16404   |   |   |   |

Renovar **provides broad spectrum, antimicrobial activity** that is directly toxic to many bacteria and fungi and might also impart antiviral properties.

| Performance   Safety   Compatibility Study |   |
|--|---|
| Testing                                    | Results   |
| Bactericidal: (carrier test)               | Pass - 1 in 60 samples or less contained surviving bacteria.  |
| Bactericidal: (suspension test)            | Pass - all three tested organisms showed a reduction of the bacterial load of more than 105 was achieved within 15 minutes.                                   |
| Bactericidal: (MRSA)                       | Pass - all 20 samples showed no growth.   |
| Bactericidal: Resistant strains (VRE)      | Pass - all 20 samples showed no growth.   |
| Tuberculocidal (Mycobacterium)             | Pass - during the 20 day incubation time period, no growth was observed.  |
| Virucidal                                  | Pass - Renovar demonstrated complete inactivation of HIV-1 following a 10-minute exposure time.   |
| Fungicidal                                 | Pass - Renovar was fungicidal against Trichophyton mentagrophytes following a 10-minute exposure at 20 °C.  |
| Sporicidal                                 | Pass - Renovar was sporicidal against Bacillus atrophaeus spores. The reduction in spores was log 6.5 on average.   |
| AOAC Available Chlorine in Disinfectants   | Pass - Renovar with available chlorine levels of approximately 60 ppm demonstrated germicidal equivalence to a control sample with 200ppm available chlorine. |

Renovar is **non-cytotoxic, non-sensitizing, and non-irritating**, and is therefore able to be used as often as needed with no risk of skin breakdown, irritation or peri-wound degradation.

| Safety   Biocompatibility Testing |  |
|-----------------------------------|--|
| Animal Model                      | Results  |
| Genotoxicity                      | No signs of toxicity.  |
| Cytotoxicity                      | Does not generate cytotoxic effects.   |
| Dermal Sensitization (Animal)     | No skin sensitization or irritations.  |
| Skin Irritation (Rabbit)          | No skin irritation detected throughout the study.  |
| Ocular Irritation (Rabbit)        | No ocular irritation detected.   |
| Acute Oral Toxicity (Rat)         | No mortality or clinical/behavioral signs of toxicity were detected. Does not cause oral toxicity. |
| Acute Dermal Toxicity (Rabbit)    | No signs of dermal irritation at any time. Does not generate dermal toxicity.                      |
| Acute Inhalation Toxicity (Rat)   | No signs of any toxic effects when inhaled.  |