

# CASE STUDIES AND REFERENCES

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For Wound Care

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## Flow Through Instillation of Hypochlorous Acid in the Treatment of Necrotizing Fasciitis

*Dr. John Crew, MD, Kerry Thibodeaux, MD, FACS, Marcus Speyrer, RN, CWS, Anibal R. Gauto, MD, Timothy Shiau, PhD, Liliana Pang, Keith Bley, PhD, and Dmitri Debabov, PhD*

“Abstract: Necrotizing Fasciitis (NF) is a rare and rapidly progressing bacterial infection of soft tissues. Bacterial toxins cause local tissue damage and necrosis, as well as blunt immune system responses. A self-propagating cycle of bacterial invasion, toxin release and tissue destruction can continue until substantial amounts of tissue become necrotic. Neutralization of bacterial toxins should improve the results.”

## Hypochlorous Acid: An Ideal Wound Care Agent With Powerful Microbicidal, Antibiofilm, and Wound Healing Potency

*Serban Sakarya, MD; Necati Gunay, MS; Meltem Karakulak, MS; Barcin Ozturk, MD; Bulent Ertugrul, MD*

“Abstract: Chronic wounds and the infections associated with them are responsible for a considerable escalation in morbidity and the cost of health care. Infection and cellular activation and the relation between cells are 2 critical factors in wound healing. Since chronic wounds offer ideal conditions for infection and biofilm production, good wound care strategies are critical for wound healing. Objective: The aim of this study was to investigate the effect of stabilized hypochlorous acid (HOCl) on killing rate, biofilm formation, antimicrobial activity within biofilm against frequently isolated microorganisms and migration rate of wounded fibroblasts and keratinocytes.”

## Treatment of Acute Necrotizing Fasciitis Using Negative Pressure Wound Therapy and Adjunctive NeutroPhase Irrigation Under the Foam

*John R. Crew, MD, Randell Varilla, RN, MSN, Thomas Allandale Rocas III, RN, BSN, CWCN, Suriani Abdul Rani, MS; Dmitri Debabov, PhD*

Necrotizing fasciitis is a complication of a bacterial infection that activates the immune system in perifascial planes. This case report highlights initial diagnostic failures that delay early treatment, which causes profoundly negative consequences. Antimicrobial control with abolition of the inciting bacteria does not neutralize the subsequent endopathologic ravages. A new therapeutic technique, which combines negative pressure wound therapy (NPWT) and a pure hypochlorous acid solution along with debridement and antibiotics is described in this study. It is believed that the combination of neutralization of the toxins produced by bacteria with NeutroPhase along with the NPWT action of removing exudates is effective in saving the patient.

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