# **Advancing Wound Healing by Using Positively Charged Cations to Kill Pathogens Without Cytotoxicity** Charles Andersen, MD, FACS, FSVS, MAPWCA; Robert G. Frykberg, DPM, MPH

#### AgFresh<sup>®</sup> – Moleculight Cases

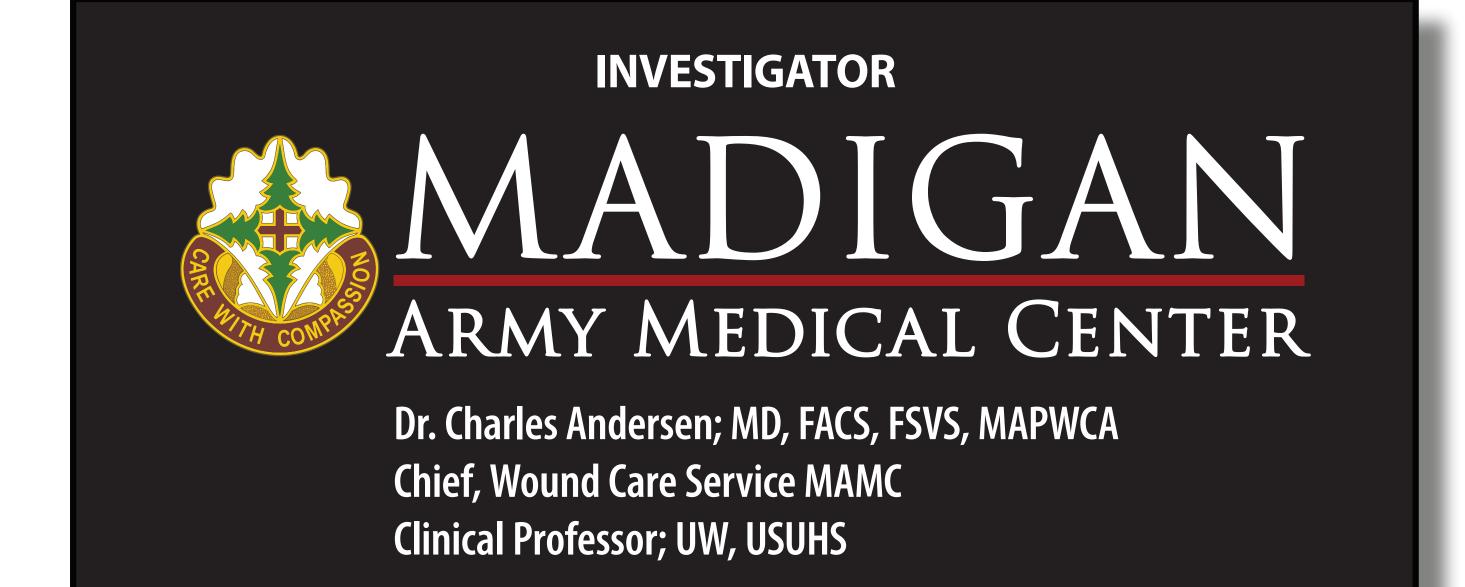
The loss of the bioelectric balance in the wound bed leads to unresolved chronic wounds with inherent biofilms and bacterial colonization. The chronic wound bed is characterized as a negatively charged (anionic) environment. The negatively charged molecules include the membranes of bacteria, biofilms and the anchoring mechanism of the biofilm to the wound bed. In order to remove anionic obstacles to wound healing, a rebalancing needs to take place with the introduction of positively charged (cationic) nano-particle minerals that bind and inactivate anions through an electron attraction process.

#### McCord System

- Fentonite<sup>®</sup> a combination of cationic nano-particle minerals releases a unique balance of cations that have been proven to bind with the anionic biofilms and pathogens causing the loss of their ability to defend themselves due to their permanent membrane deconstruction.
- The following cases represent results utilizing the McCord System with Fentonite®

#### **Clinic Protocol for McCord System**

- Clean wound with non-ionic cleaner
- Baseline Moleculight scan
- Debride and cleanse with attempts to remove bacteria if possible (Only clean with non-ionic solution)
- Repeat bacterial scan
- Hydrate wound with BioCleanse<sup>™</sup>
- Apply BioRelese<sup>®</sup>
- Apply AGFresh<sup>®</sup>
- Apply secondary dressing and compression or off-loading if appropriate
- Change dressing twice per week
- With dressing changes clean with non-ionic cleaner and debride as necessary
- Scan for bacteria pre- and post-debridement



### PATIENT - AA

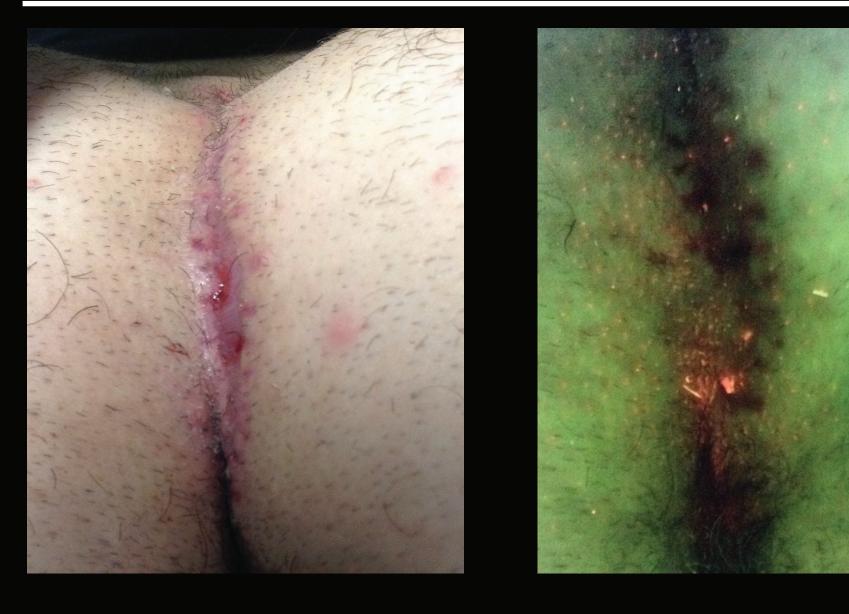
- 16 y/o male with long standing pilonidal disease associated with intermittent abscess formation
- Patient had excision of his pilonidal disease with primary closure

## AA – Baseline

**Distal suture line** separation and ulceration

Distal suture line separation with significant colonization of the wound and distal suture line. Bacteria could not be removed with debridement and cleaning

## AA – 6 Days



line complications

line complications



Size of ulcer has decreased by 50%

Bacterial burden significantly decreased

Patient continued to do daily treatment at home following a shower with foam soap

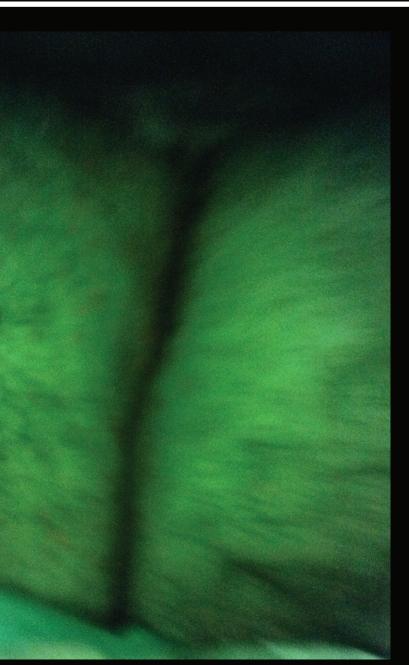
## AA – 14 Days



- complications.
- of the bacteria and complete healing.

• This type of surgery has a high incidence of suture

• Referred to wound care clinic for treatment of a suture



Incision healed with a negative bacterial scan

Success in a suture line exposed to a dirty environment

No further breakdown of the suture line

• Excision of pilonidal disease with primary closure is associated with very high rate of suture line

• Once the incision starts to separate and become infected the entire suture line usually becomes involved.

Treatment with the McCord System resulted in clearing