

## Background/Objective

Tunneling wounds oftentimes present unique challenges for the wound care specialist. The mechanical characteristics of a tunneling wound compromise normal physiologic processes, resulting in inflammatory and proliferative phase stagnation. Ineffective matrix formation is further diminished by excess bioburden commonly associated with these wounds. Additional insult is added when wound biofilm becomes residence for resistant organism species. Aggressive combination of antimicrobial technologies can be synergistic in successful management of these severely compromised wounds.



\*Iodosorb™, Smith and Nephew, Largo, FL

Cadexomer iodine\* is a slow-release elemental iodine product that absorbs wound exudate forming a gel that is non-occlusive and non-adherent with broad spectrum antimicrobial activity that has been found to be effective against common skin and soft tissue specific bacteria.

Low-frequency ultrasonic wound therapy (UAW) is emerging as an effective modality for wound bed preparation and debridement. UAW delivers ultrasonic energy directly to the wound bed via a wound treatment solution providing selective debridement and is additionally associated with tissue micro-cavitations, reported to be associated with highly effective bactericidal effect. The newest generation of UAW deploys the \*Qoustic Qurette™ which provides highly focused ultrasound energy resulting in wound debridement and reduction in wound bioburden.



\*The Qoustic Wound Therapy System™  
Arobella Medical, Minneapolis, MN

## Methods

A patient with a non-healing surgical abdominal wound with significant depth and tunneling complicated by the resistant organisms was successfully managed with the combined use of UAW and cadexomer iodine. This case is presented to illustrate the combined effectiveness of these technologies and the importance of providing wound debridement and bioburden control.

## Conclusions

We present a case which illustrates the successful management of a non-healing surgical abdominal wound with significant depth and tunneling complicated by resistant organisms, illustrating the synergistic antibacterial effect with the combined use of the Qoustic Wound Therapy System™ and Iodosorb™ in the management of wounds compromised by bioburden.

## Results/Case Report

A 56 year-old male underwent an exploratory laparotomy with partial colectomy due to a perforated appendix with pelvic phlegmon. His post-operative course was complicated by a wound infection. Despite therapy which included systemic antibiotics and negative pressure wound therapy (NPWT) the wound failed to heal. Seven months after the initial surgical procedure the patient was referred to our wound clinic for management (figure 1).



Figure 1



Figure 2

After wound care consultation local efforts including serial débridements and NPWT was continued until the wound bed was fully granular. During this time, the depth of the wound decreased from 5.7cm to 1.8cm. Wound care efforts were continued for several months but wound healing stalled (figure 2) with persistent tunneling and positive MRSA colonization. Wound management was then modified to decrease bioburden. The wound bed was prepared using ultrasonic assisted wound therapy and topical therapy was changed to cadexomer



Figure 3



Figure 4

iodine. Several weeks following initiation of UAW and Iodosorb, cultures for MRSA were negative. The wound closed within 6 weeks after modification of the wound care to address bioburden.