

Acoustic Pressure Wound Therapy* for Treatment of Infected Wounds of the Groin and Perineum/Scrotum

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Purpose

The presence of necrotic tissue and wound infection necessitates appropriate wound care to prevent disruption of healing progression. Randomized, controlled trials comparing various debridement and dressing options in the healing of infected surgical wounds are lacking.¹ Acoustic pressure wound therapy (APWT) is a noncontact, low-frequency ultrasound therapy indicated for cleansing and maintenance debridement of slough, fibrin, tissue exudates, and bacteria.²

Case Reports

The course and outcomes of adjunctive APWT use in two patients with infected post-surgical wounds are described.

Conclusions

In these two patients, addition of APWT to conventional wound care appears to have resolved barriers to healing including necrosis, drainage, odor, and epibole.

References

1. Vermeulen H, Ubbink DT, Goossens A, de Vos R, Legemate DA. Systematic review of dressings and topical agents for surgical wounds healing by secondary intention. *Br J Surg*. Jun 2005;92(6):665-672.
2. Unger P. Low-frequency, noncontact, nonthermal ultrasound therapy: A review of the literature. *OstomyWound Manage*. 2008;54(1):57-60.

* MIST Therapy® System, Celleration Inc., Eden Prairie, Minnesota

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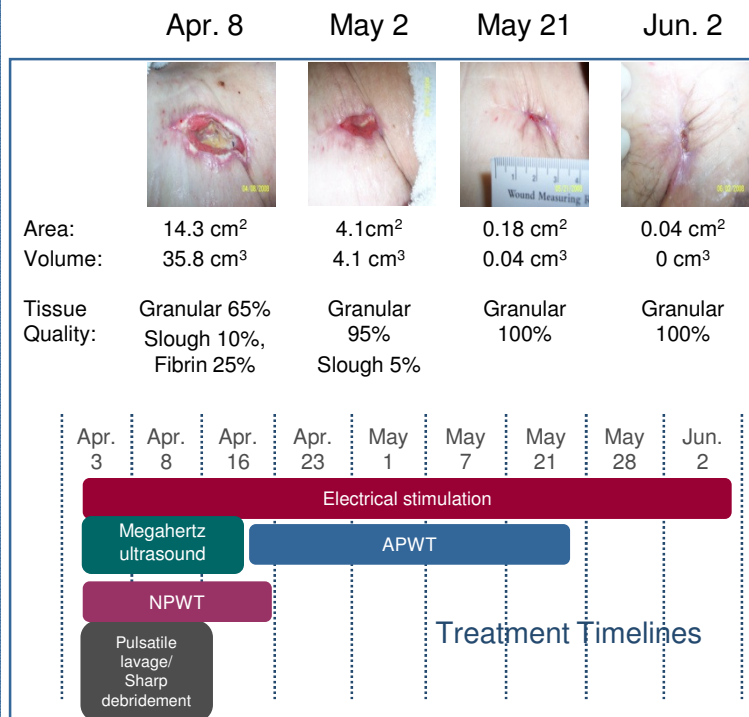
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Patient 1

The Patient: 72-year-old woman with peripheral artery disease and nonhealing groin wound status post axillofemoral bypass surgery

Treatment Course: After 2 weeks of electrical stimulation (ES), negative pressure wound therapy (NPWT), pulsatile lavage with suction, megahertz contact ultrasound and moist dressings, slough and fibrin persisted, drainage increased to moderate purulent, and epibole was present. Treatment was changed to thrice weekly ES and APWT for 6.5 weeks. See treatment timelines below.

Outcomes: Within 7 days, fibrin and epibole resolved; drainage returned to minimal serosanguineous. Slough decreased to 5% within 15 days and was completely resolved 14 days later. During the entire treatment period (8.5 weeks) wound area and volume decreased 99.7% and 100%, respectively.



Patient 2

The Patient: 34-year-old paraplegic man (wheelchair ambulation) with Fournier's gangrene (polymicrobial necrotizing fasciitis) of the perineum status post incisional hernia repair underwent extensive debridement resulting in exposed areas of bowel and testicles.

Treatment Course: After receiving pulsatile lavage and UVC light treatment during a 5-day hospital stay, he was transferred to a subacute rehab facility where he received daily APWT and UVC treatments. Upon discharge home 4 weeks later (May 2), he began thrice-weekly outpatient APWT with calcium alginate/gauze dressing.

Outcomes: Foulness of wound odor resolved after 5 days of APWT; odor was completely resolved 11 days later. After 6 weeks of outpatient APWT, the wound closed completely. See photos and table below.

