

HYDROCONDUCTIVE DRESSINGS USED TO HEAL DEHISCED INCISIONS IN AMPUTATED LIMBS: A CASE SERIES

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In 2011 a novel class of dressings, Hydroconductive Dressings (HCD)*, was introduced at the SAWC (1). The unique action of this dressing draws wound exudate both vertically and horizontally into the dressing (2), draws debris and slough from the wound, and draws bacteria and deleterious cytokines from the wounds (3,4). Although this topical therapy is most commonly associated with highly exudative wounds, such as venous leg ulcers, we have also been utilizing it with great success in the treatment of dehiscenced incisions on residual limbs after amputation. In the combat-related amputee population, progression into rehabilitation is the key motivating factor for the patients. A setback such as a dehiscenced wound is a major challenge. Here we present our experiences with 4 dehiscenced amputation incisions that were all treated with the HCD. In each of the cases, the patient's wound had been treated for at least two weeks with an alternative product and did not progress within expected norms of wound healing. The patients were also treated with low frequency non-contact ultrasound**

Case 1 is a 42 year old Marine who was involved in a helicopter crash and underwent a right below-knee amputation (BKA) after failed limb salvage attempt. The incision dehiscenced in 2 areas and did not progress with Aquacel or Medihoney. Switched to HCD. Medial wound measured 1.6x2.9x0.2 cm (Fig. 1). Within 2 wks the wounds were 80% granulation and measured (medial) 1.5x1.7x0.2 cm. and lateral 0.5x1.5x0.1cm (Fig. 2). Three wks later the medial wound was 0.9x1.3x0.2 cm and the lateral 0.3x0.8x0.2cm (Fig. 3). Six wks of HCD resulted in a healed lateral wound and a small medial wound (Fig.4). By 10 wks, all wounds were healed.



Fig. 1

Fig. 2

Fig. 3

Fig. 4

Case 2 is a 29 year old Soldier who sustained R. calcaneal fx in IED blast and developed osteomyelitis. Antibiotics, debridement, and HBO unsuccessful, requiring BKA. Incision dehiscenced and wound was resistant to Rx. (Fig.1). After attempt with NPWT, debrided wound begun on HCD. After 3 wks of HCD wound showed signs of healing and measured 1.5x1.6x0.7 cm (Fig. 2). An additional 4 wks of HCD brought the wound to 2.0x1.5x0.1cm and HCD was discontinued and gel applied to complete the healing process (Fig. 3).



Fig. 1

Fig. 2

Fig. 3

Case 3 is a 30 year old Marine who sustained a right above-knee amputation after dismantled combat IED blast. Following closure, the wound subsequently dehiscenced. After NPWT was discontinued, low-frequency non-contact ultrasound, cadexomer iodine to the arms of the incision and HCD packed into a 3.0 cm sinus tract at the dehiscenced area (Fig. 1). After three days, the sinus tract measured 2.0 cm. By 10 days the wound had no measurable sinus tract (Fig. 2). Once epithelialization began, a gel to maintain moisture was used until wound closure (Figs 3, 4).



Fig. 1

Fig. 2

Fig. 3

Fig. 4

Case 4 is a 22 year old Marine who sustained a R. Gustillo IIIB tib-fib fx. After a failed limb salvage attempt, pt. underwent BKA with a turn-up flap. Wounds dehiscenced. The ant. medial wound was 7.2 x 1.0 x 1.5 cm. and the lateral wound eschar measured 10.0 x 2.0 x 0 cm. (Fig. 1). Both wounds were debrided and begun on HOCl irrigations and soaks and dressed with HCD (Fig. 2). After 4 wks of Rx. regimen, the medial wound underwent delayed surgical closure and lateral wound measured 2.0 x 1.0 cm in prox. area and 6.0 x 1.0 in distal area. (Fig.3). By 7 wks of Rx. with HOCl and HCD, the medial wound was healed and the lateral wound measured only 1.5 x 0.3 x 0.1 cm. proximal area and 4.0 x 0.3 x 0.1 cm. distal area (Fig. 4).



Fig. 1

Fig. 2

Fig. 3

Fig. 4

References

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*Drawtex Hydroconductive Wound Dressing, SteadMed Medical LLC, Fort Worth, TX

**MIST Ultrasound Healing Therapy, Celleration Inc, Eden Prairie, MN