

HYDROCONDUCTIVE DRESSING OPTIONS FOR COST-EFFECTIVE ACUTE & CHRONIC WOUND HEALING

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With healthcare reform now a reality, there is a need to improve outcomes while reducing provider and patient costs. The wound care industry is in need of developing healing strategies that will have improved effectiveness.^{1,2} As an alternative to more costly advanced wound therapies for decreasing edema in and around the wound bed and for removing excess exudate, debris, slough, tissue bacteria, and deleterious chemicals that impede wound healing, Drawtex Hydroconductive Wound Dressing (SteadMed Medical LLC, Fort Worth, TX) has been evaluated and has demonstrated to perform each of those functions as a wound dressing.³⁻⁶ Additionally, it has been reported to be able to serve as an alternative to negative pressure wound therapy (NPWT).^{7,8}

Two illustrative examples of cost savings occurred in a case comparing NPWT with Drawtex and a case comparing advanced wound dressing therapy with Drawtex.

This article offers a review of both case studies.

CASE NO. 1: GLUTEAL ABSCESSSES

The first case featured a 56-year-old woman who presented with bilateral gluteal-area swellings with a history of multiple abscesses in the buttock and gluteal areas for three years secondary to self-injection of an unknown substance. The abscesses had been treated with multiple extensive debridements and prolonged hospitalizations using NPWT. On several of those admissions, more than one (and up to four) NPWT devices were used following incision and drainage of the abscesses (**Figure 1**). Typical daily costs for a single NPWT device for treatment of a deep abscess is shown in **Table 1**. These costs will be higher with multiple devices as used to treat this patient and can be even higher if the patient is treated with

NPWT as an outpatient requiring visiting home healthcare nursing visits.

On this admission, a decision was made to evaluate the hydroconductive dressing as an alternative to NPWT after incision and drainage of five deep gluteal abscesses. The dressing was cut into strips and inserted as wicks deep into the abscess cavities (**Figure 2**). The wounds were then dressed with Drawtex dressings to draw out the purulent material and debris. The dressings were changed on a daily basis. Also, a single 8x8 dressing was cut into multiple pieces to cover each of the draining areas (**Figure 3**). The daily costs for this treatment are shown in **Table 2**. At the time of the dressing changes, abscess contents had been wicked out and drawn by the Drawtex dressings. Af-

ter one week of daily dressing changes, the abscesses were cleared with no drainage, the edema resolved, and wounds had positive healing trajectories (**Figure 4**).

CASE NO. 2: CROHN'S DISEASE & ILEOSTOMY

The second case followed a 72-year-old woman living with Crohn's Disease and an ileostomy who presented with painful peristomal ulcers due to pyoderma gangrenosum. She was treated with systemic corticosteroids and daily changes of silver alginate dressings and foam dressings. Her pain on a pain scale was rated 8-10. When the peristomal ulcer failed to improve with the advanced wound dressing protocol, a decision was made to switch to hydroconductive dressings. At that time



Figure 1: At times, 2-4 NPWT devices were required to adequately remove purulent material and excess exudate following incision and drainage of abscesses.



Figure 2: Drawtex wicks were placed into each incisional wound to draw out purulent material and exudate.



Figure 3: Hydroconductive dressings were cut to fit over the wicks to further draw exudate, debris, bacteria, and deleterious cytokines from the abscess cavities.



Figure 4: Once all drainage ceased, the wounds were on a trajectory to complete healing.

hydroconductive dressings



Figure 5: A painful peristomal ulcer exists adjacent to ostomy site, making appliance wearing difficult.



Figure 6: With daily Drawtex dressing changes, the depth of the ulcer disappeared and the ulcer size significantly decreased.



Figure 7: By 20 weeks of decreasing frequency of dressing changes, the ulcer was almost completely epithelialized and could be covered with a small dressing.



Figure 8: As the ulcer healed, the pouch appliance could be easily worn with complete comfort for the patient.

Table 1. NPWT Daily Costs

Expense Category	Cost
NPWT daily rental	\$60/unit
Dressing pack	\$18/large pack
Nursing time (35 min @ \$21/hr)	\$12.25
Total Cost	\$90.25

Table 3. Silver Alginate Advanced Wound Dressings Daily Costs

Expense Category	Cost
Silver alginate dressing (4x4)	\$13.80 (average of 3 brands)
Nursing time (12 min @ \$21/hr)	\$4
Total Cost	\$17.80

the wound measured 5.0-x-3.0-x-1.25 cm (**Figure 5**). The daily costs for the advanced wound dressing therapy with silver alginate dressings are shown in **Table 3**. After 12 weeks of Drawtex treatment, all depth of the ulcer had filled in and size

Table 2. Drawtex Hydroconductive Dressings Daily Costs

Expense Category	Cost
8x8 Drawtex Dressing (cut into pieces to fit each wound)	\$16
Nursing time (15 min @ \$21/hr)	\$5.25
Total Cost	\$21.25

Table 4. Drawtex Hydroconductive Dressings Daily Costs

Expense Category	Cost
4x4 Drawtex Dressing	\$6.93
Nursing time (12 min @ \$21/hr)	\$4
Total Cost	\$10.93

was 3.5-x-2.5-x-0 cm. (**Figure 6**). The patient's pain on the pain scale measurement had decreased to 2-3. As the ulcer healed, the frequency of dressing changes decreased from daily to twice per week. By 20 weeks of Drawtex treatment the

ulcer was almost entirely epithelialized and could be treated with only a small dressing (**Figure 7**). Furthermore, the patient reported longer wearing time of her pouch system and complete comfort (**Figure 8**). The maximum costs for her treatment with hydroconductive dressings are shown in **Table 4**. Costs were further reduced because she required smaller pieces of dressing as her ulcer healed.

CONSIDERING COST SAVINGS

These two cases demonstrate the possible cost savings when using a dressing designed to remove deterrents to wound healing and promote wound bed preparation to allow healing to occur or to prepare the wound for wound closure.⁹ In the first case, the cost of using Drawtex as an alternative to NPWT was 23.5% the cost of NPWT on a daily basis (**tables 1 & 2**). This 75% daily cost savings was only for the cost of using a single NPWT device, so it would be even greater with multiple devices or home use of the NPWT. As both Scott⁷ and Couch and Cnossen⁸ have reported, using Drawtex as an alternative to NPWT is effective and safe for the patient. The second case demonstrates that even comparing costs to other wound dressings such as silver alginates can result in significant cost savings. In that case, the cost of Drawtex daily dressing treatment was 61.4% the cost of daily treatment with silver alginate dressings (**tables 3 & 4**). This 38.6% cost savings on a daily basis becomes quite significant over several weeks of daily dressing changes.

The mechanisms of action of the hydroconductive dressing have been shown to be a unique combination of capillary action, hydroconductive action, and electrostatic action.^{10,11} These mechanisms are responsible for the various actions reported for wound improvement. ■

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References can be found online at www.todayswoundclinic.com.