



CASE STUDY

Infected Post-Surgical Abdominal Wound



Cost Savings Through the Addition of MIST® Therapy to Standard Wound Care

Background

Surgical site infections are a common complication of care, occurring in 2-5% of non-abdominal surgeries and **up to 20% in abdominal surgeries**.¹ Infected abdominal surgical sites require the wound be left open and surgically closed after the infection is resolved. The impact of these infections are significant as noted in the chart below.²

	Non-infected	Infected	Difference
Hospital length of stay	6 days	11 days	Nearly twice as long
Hospital readmissions <i>(within 30 days of discharge)</i>	7.4%	41%	Over 5 times greater
ICU admissions	18%	29%	1.6 times greater
Mortality	3.5%	7.8%	Over 2 times higher
Direct hospital cost	\$3,842	\$7,486 <i>(\$3,089 directly related to the infection)</i>	Nearly twice the cost

As of October 2008, Medicare no longer provides additional reimbursement for selected hospital-acquired infections.

Patient Profile: 75-year-old Female³

Conditions: Type 2 diabetes, anemia, mental status change, collapsed lung, patient receiving nutrition via feeding tube, previous abdominal hernia repair. Has experienced multiple infections and failed grafts of post-surgical wound.

Care Setting: Long-term Acute Care

Pre-MIST® Therapy

Wound: Large, full thickness, infected post-surgical abdominal wound.

Area: 14 cm x 24 cm = 336 cm²

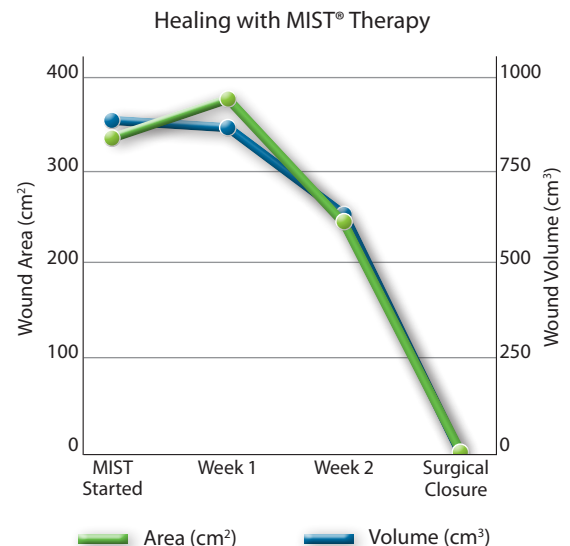
Volume: 14 cm x 24 cm x 2.8 cm = 940.8 cm³

Undermining of 6 cm in length was noted from 8 to 2 o'clock. Patient had multiple wound infections with graft disruption prior to her last surgery in late April during which time an alloderm graft was placed in the wound bed. Despite this application, a large abdominal wound remained that was in need of surgical closure.

Treatments: Treatment included negative pressure wound therapy prior to the addition of MIST® Therapy 3 times a week.

Post-MIST Therapy

Outcomes: The addition of MIST Therapy allowed the wound bed to increase in granulation from 80% granulation/20% alloderm to 95% granulation/5% alloderm which allowed the patient to be taken to surgery for successful closure.



The costs and cost savings depicted in this case study are illustrative only and represent the types of costs that may be incurred by a health care institution. They will vary for each institution, care setting, patient type, treatment course, etc., but provide an outline for consideration and discussion.

Potential Cost Savings †



Pre-MIST® Therapies

\$6,195*



No Wound Closure

Time —————> 3 Weeks

MIST® Therapy and Standard Care **\$1,490****



Wound reduced **26.4%*****
in area and **34.4% in volume** and infection managed to allow for successful surgical closure.

Time —————> 2 Weeks

Savings: \$4,705

The cost savings associated with MIST® Therapy is the result of its ability to effectively manage bioburden and prepare the wound bed for surgical closure. In this case study, two weeks of MIST® Therapy treatment were able to reduce the area and volume of the wound, increase the amount of healthy granulation tissue, and decrease the bacterial bioburden so surgery could be successfully completed.

* Cost was determined using \$565/week (\$60 canisters, \$36 for dressings, \$469 rental) for negative pressure wound therapy (NPWT) for three weeks prior to the addition of MIST Therapy (assumes 3 dressing changes per week) and 3 failed grafts (\$1,500 each). *Costs for additional surgical interventions and infection treatment were not included in this analysis.*

** \$180/week was added for MIST Therapy to the costs of NPWT (\$60 each for applicators/rental).

*** Results with MIST Therapy are not necessarily representative of and may vary with each patient.

† This economic analysis is based upon empirical evidence and has not been derived from a formal cost effectiveness study.

For more case stories related to this topic and others, please contact your local Celleration representative or call (952) 224-8700.

1. Auerbach AD. Chapter 20. Prevention of Surgical Site Infections. Agency for Health Research and Quality. <http://www.ahrq.gov/clinic/ptsafety/chap20a.htm>
2. Kirkland KB, et. al. The Impact of Surgical-Site Infections in the 1990s: Attributable Mortality, Excess Length of Hospitalization, and Extra Costs. *Infect Control Hosp Epidemiol* 1999; 20:725-730.
3. Howell-Taylor M, Hall MG, Brownlee WJ, Taylor M. Combined Use of Negative Pressure Wound Therapy and Acoustic Pressure Wound Therapy to Prepare Infected, Open Postsurgery Wounds for Secondary Surgical Closure. Poster SAWC 2007.



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