Continuous External Tissue Expander

Facilitates rapid tissue movement to automatically reduce or re-approximate wounds
Potential Annual Hospital Cost Savings Provided by DermaClose with 20 Uses per Month

- $1,100,000 versus NPWT (VAC) Therapy
- $2,200,000 versus Vessel Loops
- $2,600,000 versus Skin Grafting
Example of Potential Hospital Cost Savings

<table>
<thead>
<tr>
<th>Complex Wound Treatment Method</th>
<th>Average Treatment Days¹</th>
<th>Inpatient Cost per Patient</th>
<th>Monthly Costs for Treating Complex Wounds</th>
<th>Annual Costs for Treating Complex Wounds</th>
<th>Annual Cost Savings from Using DermaClose</th>
<th>Cost Savings Over Five Years from Using DermaClose</th>
</tr>
</thead>
<tbody>
<tr>
<td>DermaClose Continuous External Tissue Expander</td>
<td>5</td>
<td>$11,650</td>
<td>$233,000</td>
<td>$2,796,000</td>
<td></td>
<td></td>
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<tr>
<td>Skin Grafting</td>
<td>9.8</td>
<td>$22,834</td>
<td>$456,680</td>
<td>$5,480,160</td>
<td>$2,684,160</td>
<td>$13,420,800</td>
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<tr>
<td>NPWT (VAC) Therapy</td>
<td>7</td>
<td>$16,310</td>
<td>$326,200</td>
<td>$3,914,400</td>
<td>$1,118,400</td>
<td>$5,592,000</td>
</tr>
<tr>
<td>Vessel Loops</td>
<td>9</td>
<td>$20,970</td>
<td>$419,400</td>
<td>$5,032,800</td>
<td>$2,236,800</td>
<td>$11,184,000</td>
</tr>
</tbody>
</table>

**Assumptions:**
Total complex wound cases treated with DermaClose per month as alternative to other approaches
Hospital expenses for a patient floor day (non-ICU)
Product cost for DermaClose External Tissue Expander Kit

**Additional DermaClose cost benefits that were not included:**
- Increase in DRG reimbursement covers product costs
- Potential for reduced infection rate savings on closed wound versus open wound
- Time and cost to tighten vessel loops eliminated

**Model and cost savings scalable to your institution**

¹ Cost savings data from independent study presented at Northeastern Society of Plastic Surgeons, Sept. 2013. and Technomics
Independent Study
Presented at NESPS 2013 Meeting

Conclusion
DermaClose enabled a rapid aesthetic delayed primary closure in 93% of fasciotomy wounds. The use of DermaClose at Albany Medical Center demonstrated cost savings (per wound) of $4,622 versus NPWT (VAC) treatment and $9,117 versus the use of vessel loops.
Additional DermaClose Cost Savings

• Reduces
  – trips to the OR for VAC changes and I&D procedures
  – number of NPWT VAC dressings used
  – use of expensive biologic grafts
  – time to closure for open wound patients, which may reduce the risk of infection
  – may reduce risk of wound dehiscence
  – overall cost of treating complex wound patients
Numerous Peer Reviewed Journal Articles

September 2012
Mayo – Scalp Closure and Forehead Defects

March 2012
Walter Reed – Fasciotomy Wound Management

February 2013
Walter Reed – Fracture Coverage

August 2014 Walter Reed – Extremity Amputations
DermaClose Benefits

- **Reduced Time to Closure**
  - DermaClose expands the tissue to re-approximate the wound edges
  - Average time to closure 4.4 days (Walter Reed Study in Annals of Plastic Surgery October, 2012)
  - Wounds can be sutured closed in less than 7 days for most procedures
- **Is a simpler, faster, cheaper alternative to skin grafts and flaps**
- **Better cosmetic results than skin grafts**
- **Has a broad application for multiple specialties**
<table>
<thead>
<tr>
<th>ICD-9-CM Code</th>
<th>Description</th>
<th>DRG W/O 86.93</th>
<th>2014 Payment</th>
<th>DRG With 86.93</th>
<th>2014 Payment</th>
<th>Increase in Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>958.92</td>
<td>Traumatic compartment syndrome of lower extremity</td>
<td>923</td>
<td>$3,555</td>
<td>905</td>
<td>$6,699</td>
<td>$3,144</td>
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<tr>
<td>879.20</td>
<td>Open wound of abdominal wall, anterior, without mention of complication</td>
<td>605</td>
<td>$3,958</td>
<td>578</td>
<td>$6,775</td>
<td>$2,817</td>
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<tr>
<td>728.86</td>
<td>Necrotizing fasciitis</td>
<td>558</td>
<td>$4,477</td>
<td>465</td>
<td>$10,310</td>
<td>$5,833</td>
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<tr>
<td>998.83</td>
<td>Non-healing surgical wound</td>
<td>921</td>
<td>$3,502</td>
<td>905</td>
<td>$6,699</td>
<td>$3,197</td>
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<tr>
<td>997.60</td>
<td>Unspecified complication of amputation stump</td>
<td>566</td>
<td>$3,566</td>
<td>465</td>
<td>$10,310</td>
<td>$6,744</td>
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<tr>
<td>172.40</td>
<td>Malignant melanoma of skin of scalp and neck</td>
<td>596</td>
<td>$4,985</td>
<td>578</td>
<td>$6,775</td>
<td>$1,790</td>
</tr>
</tbody>
</table>
Physician Reimbursement

Commonly billed codes associated with DermaClose are:

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
<th>RVU</th>
<th>2014 Payment (Facility)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11960</td>
<td>Insertion of tissue expander(s) for other than breast, including subsequent expansion</td>
<td>27.78</td>
<td>$ 950.38</td>
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<tr>
<td>11971</td>
<td>Removal of tissue expander(s) without insertion of prosthetic</td>
<td>9.68</td>
<td>$ 326.70</td>
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</tbody>
</table>
Clinical Cases
Skin Cancer Excision

Excisional wound closed on day 2

Final photo day 10
Compartment Syndrome resulted in a four compartment fasciotomy

DermaClose with immediate reduction in wound size
Patient returned for final wound closure on Day 4.

The wound was successfully closed with skin glue, sutures and steri-strips.
Gun shot wound to left popliteal fossa. Further examination revealed that the patient had no palpable pulse in the left foot and required a vein graft. A four compartment fasciotomy

After 48hrs Patient was moved to OR for closure of the fasciotomy sites. The medial was closed primarily but there was too much tension to close the lateral fasciotomy. A DermaClose RC was used with a shoelace technique.

Images Courtesy of: A. B. Levitt MD
After three days, the patient returned to the OR and the dressings were removed. The tissue adjacent to the fasciotomy wound had expanded significantly and the wound edges had approximated. Patient had no complaints of pain with the device in place. The wound was closed using a 2-0 monofilament non-absorbable and the DermaClose RC device was removed.

Images Courtesy of: AB Levitt MD