Use of a Silicone Dressing to Reduce Sacral Pressure Ulcers Among Critically Ill Patients: An RCT

HYPOTHESES: Patients treated with a Borderlined Silicone Foam Dressing will have a lesser incidence rate of sacral PU development than those receiving usual care.

STUDY RESULTS

<table>
<thead>
<tr>
<th>Study Characteristics (N=77)</th>
<th>P/U Location</th>
<th>P/U Stage Final</th>
<th>N/ Location</th>
<th>N/ Stage Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>146 (40%)</td>
<td>245 (67%)</td>
<td>12 (6%)</td>
<td>48 hours</td>
</tr>
<tr>
<td>MALE</td>
<td>71 (28%)</td>
<td>120 (40%)</td>
<td>11 (70%)</td>
<td></td>
</tr>
<tr>
<td>FEMALE</td>
<td>75 (32%)</td>
<td>125 (33%)</td>
<td>1 (30%)</td>
<td></td>
</tr>
<tr>
<td>Braden Scale Score</td>
<td>11.2 (± 1.12)</td>
<td>11.55 (± 1.05)</td>
<td>9 (± 1.0)</td>
<td></td>
</tr>
<tr>
<td>APACHE* IV Mortality Risk</td>
<td>(0.60-0.90)</td>
<td>(0.60-0.90)</td>
<td>(0.60-0.90)</td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSION: We found the use of Silicone Foam Dressing to be effective in preventing PUs in Intervention Group (significant at P<.001). Adoption of this new wound technology will improve outcomes of high risk patients.

REFERENCES:

BACKGROUND:
- Skin integrity is identified as a measure of nursing care quality and patient care outcomes. Pressure Ulcers (PUs) are a major health problem, due to patient malnutrition, treatment and legal costs and reimbursement issues.
- Development of PUs is related to pressure, shear and friction. These can be prevented/treated if found in the early stages. PUs ease harm to patients, impact their quality of life; its presence length of stay and may prove fatal.

AVERAGE COST PER PU CASE WAS $30,000 TO $43,180 PER HOSPITAL STAY IN 2010.

AIMS OF THE STUDY:
- To determine the effectiveness of a Borderlined Silicone Foam Dressing in preventing sacral PUs compared to standard prevention interventions and usual care.

METHODS AND DESIGN:
- This prospective RCT was conducted at a 56-bed teaching hospital, in the MedSurg Trauma 31-bed ICU and 23-bed cardiac ICU. The study was approved by the Institutional Review Board.

STUDY FLOW OF SUBJECTS
- Use of a Silicone Dressing to Reduce Sacral Pressure Ulcers Among Critically Ill Patients. An RCT

MEASUREMENT:
- Demographic data, Braden Score, APACHE* IV Mortality Risk at baseline / four.
- Subjects were in the study during the ICU stay, and were also tracked (post-ICU discharge) through the electronic medical record (EMR) for pressure ulcer incidence and mortality.

CONCLUSION:
- Findings from Long Beach Memorial RCT: Patients in the cohort who developed pressure ulcers had those factors in common:
  - Four or more co-morbidity (70%)
  - Vasopressor support (67%)
  - Mechanical ventilation (54%)
  - Cerebrovascular/paralyzing medication >48 hours (40%)

**APACHE IV Mortality Risk range: (0.60-0.90)**

**Significance at P<.001**

**APACHE IV Mortality Risk**
- Altered level of consciousness
- Continuous sedation/paralyzing medication >48 hours
- Continuous Sedation/Paralyzing medication >24 hours
- Mechanical ventilation
- Braden Score <11
- Four or more co-morbidities
- APACHE IV Mortality Risk range: (0.60-0.90)

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CONCLUSION:
- Development of a risk assessment model for pressure ulcers in these patients is warranted and could be the foundation of development of a risk assessment tool.
- American Journal of Critical Care. 2011;20:364-375.1

**Acute Physiology and Chronic Health Evaluation (APACHE IV)**
- **Acute Physiology and Chronic Health Evaluation (APACHE IV):** Hospital mortality assessment for today's critically ill patients.
- **IV Mortality Risk range: (0.60-0.90)**
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Use of a Soft Silicone, Self-Adherent, Bordered Foam Dressing to Reduce Pressure Ulcer Formation in High Risk Patients:

A Randomized Clinical Trial

Author:
Peggy Kalowes RN, PhD, CNS, FAHA, Principal Investigator
Melanie Li RN, MSN, NP, CWOCN, Co-Investigator
carole carlson RN, BSN, CWOCN
Leslie carr RN, BS, CWOCN
Leonora Llantero RN, BSN
diana Lukaszka RN, BSN, CWOCN
kelly Martinez RN, BSN
rowena tan-Manrique RN
Lety Sia-Mcgee RN, BSN
Valerie Messina RN, BSN, CWCN
adele Sandusky RN, BSN

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For details and questions, please contact your Mölnlycke® Health Care Representative or Regional Clinical Specialist.

Estimated Cost of Including Mepilex® Border Sacrum Dressing

Estimated Cost Saved Through Prevention of Sacral Pressure Ulcers

Estimated Costs: Prevention for 1 patient per day = $54.66; Care for 1 Stage I = $54.66 per day; Care for 1 Stage II Pressure Ulcer = $2,770.54 per day; Care for 1 Stage III-IV Pressure Ulcer = $5,622.98 per day.

Total estimated cost of pressure ulcer care for Control (7) and Intervention (1): $151,036. Total estimated cost of Mepilex® Border Sacrum for Intervention Group: $5,371.

Average patient stay without pressure ulcer or Stage I: 5 days.
Average patient stay with Stage II-IV Pressure Ulcer: 57 days; unstageable pressure ulcers treated as Stage III-IV, statistically.

Padula, W., Mishra, M, and Makic, MB. Improving the Quality of Pressure Ulcer Care: a cost-effectiveness analysis. Medical Care. Vol 49 No 4, April 2011. Pg 385-392.