Objectives: To measure longitudinal changes in pressure injury rate pre- and post-adoption of prophylactic dressing as a real-world, practical indicator of effectiveness in preventing pressure injuries.

Background: Hospital-acquired pressure injuries are common, costly and deadly, particularly Stage 3, 4, and Unstageable injuries which cause more than $30,000 in added care per hospitalized patient. In 2010, the National Pressure Ulcer Advisory Panel (NPUAP) published the first Clinical Practice Guideline for preventing pressure injuries, and since then, there have been 15 guideline updates with each successive update providing evidence for more effective prevention strategies. The Real-World Effectiveness and Value of Sacral Dressings to Prevent Hospital-acquired Pressure Injuries in Academic Medical Centers: An Observational Cohort Study

Method: This observational cohort reviewed rates of pressure injuries at 38 U.S. academic medical centers between 2010-2015 obtained from a randomly selected sample of member institutions of the University Health System Consortium (UHC).

Results: These observations amounted to 912 hospital-quarters, of which there were 631 hospital-quarters when prophylactic dressings were in use for pressure injury prevention.

- 1.0 million patient hospitalizations at these 38 hospitals during the period of observation, and 515 known tags for AHRQ PSI-03: Analysis of hospital-level patient outcomes revealed that the average medical center experienced:
  - A 3.0 reduction in PSI-03 per quarter hospital quarter, which represents a statistically significant improvement in pressure injury rates (p<0.005) according to a Student’s t-test.
  - PSI-03/quarter without dressing use 1.52±0.126
  - PSI-03/quarter with dressing use 1.20±0.352
  - In general, the average hospital experienced a 1.5 reduction in PSI-03 per quarter following the introduction of prophylactic dressings using 1-2 patients per year from Stage 3, 4 or Unstageable pressure injuries.
  - Hospitals investing in prophylactic dressings at a rate of one dressing per at-risk patient made a 100% return on investment in less than one year, not including cost of litigation.
  - The total cost of products purchased per quarter was associated with significant reductions in PSI-03, suggesting that a greater investment in these dressings resulted in greater PSI-03 reductions.
  - Approximately 1.5 prophylactic dressings per at-risk patient were purchased per quarter which aligns with the indication that this prophylactic dressing can be used continuously for 3-4 days.

Discussion: This new evidence makes a direct association between pressure injury rate reductions and use of a 5-layer soft adherent soft silicone bordered sacral foam dressing. The strength of association between prophylactic dressing use and rate reductions outweighed the association between pressure injury reduction and the CMS non-reimbursement policy.

Conclusion: Academic medical centers experienced significant reductions in counts of Stage 3, 4, and Unstageable pressure injuries not present on admission following the adoption of a 5-layer soft adherent soft silicone bordered sacral foam dressing.

References

Figure 1. Rates of Stage 3, 4 and Unstageable Pressure Injury Correlated with 5 Layer Self-Adherent Soft Silicone Bordered Foam Sacral Dressing Use

Table 1. Cost Implications of Implementing the 5 Layer Sacral Prophylactic Dressings

<table>
<thead>
<tr>
<th>PSI-03 per 1,000 Patients</th>
<th>Prophylactic Dressings Per Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital used prophylactic dressings efficiently</td>
<td>0.5 dressing/patient over 5+ days/Hospitalization</td>
</tr>
<tr>
<td>Dressings can be used continuously for 3-4 days</td>
<td></td>
</tr>
<tr>
<td>Greater pressure injury reduction was associated with greater investment in prophylactic dressing</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2. Prophylactic dressing use significantly correlated with reductions in PSI-03.

Poster development support provided by Mölnlycke.