Preventing Preventable Pressure Ulcers: A Comprehensive Approach
Rosemary Jones, FNP, WOCN, Carl T. Hayden VA Medical Center, Phoenix, Arizona

Purpose/Problem
Reports estimate that 50% of the most dangerous pressure ulcers that occur in the acute-care setting are preventable.1 Pressure, friction/shear, and moisture are all contributors to preventable pressure ulcer (PPU) development.2

Objective
A goal of zero PPUs was set as a measurable objective for the Intensive Care Unit (ICU). Prevention interventions, addressing all causative agents of pressure ulcer development, needed to be implemented and utilized by bedside staff to achieve this goal.

Preventive Interventions
- ICU mattresses replaced with low air loss and pressure relieving mattresses
- Protective barrier cream initiated to keep excessive moisture away from patients’ skin
- Ceiling lifts added to each bed in ICU to decrease friction and shear associated with repositioning
- Airflow pads replaced cloth pads to better protect patients’ skin from excessive moisture and incontinence-associated dermatitis
- Continuous bedside pressure mapping implemented to allow bedside staff to visually assess where high pressures exist beneath patients and effectively reposition

Timeline of Implementation

- 2008-2009
- Q1 2011
- Q3 2011
- Q4 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Support Surfaces &amp; Moisture</th>
<th>Friction/Shear</th>
<th>Moisture</th>
<th>Pressure/Effective Repositioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-2009</td>
<td>Replaced all ICU beds &amp; mattresses</td>
<td>Initiated use of protective barrier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1 2011</td>
<td>Ceiling lifts on all ICU beds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3 2011</td>
<td>Absorbant air flow pads</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4 2011</td>
<td>Continuous bedside pressure mapping</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Outcomes Summary
The goal of zero PPUs was achieved through the implementation of consecutive preventive interventions. Utilization of low air loss and pressure relieving mattresses in conjunction with protective barrier cream resulted in 5 PPUs in Q1 2010. After addition of ceiling lifts, 4 PPUs were observed in Q2 2011. After airflow pads replaced cloth pads, 1 PPU was observed in Q4 2011. Finally, with the addition of continuous bedside pressure mapping in Q4 2011, the goal of zero PPUs was achieved in Q1 & sustained in Q2 2012.

Conclusions
With a comprehensive approach to addressing all causative agents in pressure ulcer development, moisture, friction/shear, and pressure, a goal of zero PPUs is achievable and sustainable.

References

*The M.A.P.™ System, by Wellsense, USA, Inc., Nashville, TN. Funding for poster production was provided by Wellsense.