Evidence to Practice: Blended Methods for Bedside Evidence Integration

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**Background**

Noninvasive Positive Pressure Ventilation (NIPPV) has gained prevalence as an effective way to manage respiratory compromise in infants and children, however device related pressure injury is a potential adverse effect of NIPPV. Nursing specific processes combined with collaborative interdisciplinary assessments directly impact patient outcomes related to prevention of hospital acquired device related pressure injury.

**Purpose**

To determine the effect of specific improvement strategies aimed at decreasing incidence of hospital acquired device related pressure injury for children receiving NIPPV.

**Evidence**

- Iatrogenic injuries to the nasal area are associated with the duration of therapy.
- Protection of the nasal septum and the perinasal tissue during NIPPV therapy is identified as an area of concern.
- Regardless of age or length of time on NIPPV, risk of skin injury increases as amount of pressure (settings) increases. (CHOP internal audit data, 12/2010)

**Outcome Data**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Nov. 2010 (n=91)</th>
<th>Nov. 2011 (n=72)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>3 (0.42, 13)</td>
<td>2 (0.25, 12.5)</td>
<td>0.54</td>
</tr>
<tr>
<td>Weight</td>
<td>14.2 (5.7, 44.7)</td>
<td>12.0 (3.9, 30.2)</td>
<td>0.17</td>
</tr>
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<td>Therapy Days</td>
<td>6 (2, 13)</td>
<td>5.5 (3, 11)</td>
<td>0.48</td>
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<tr>
<td>Hrs on NPPV</td>
<td>16.5 (9, 24)</td>
<td>17.5 (10.5, 24)</td>
<td>0.74</td>
</tr>
</tbody>
</table>

**Discussion**

- A blended approach to bedside evidence implementation promotes practice change through identification of learning style differences.
- Commitment to standardized process across disciplines contributes to improved patient outcomes by promoting:
  - Team empowerment and process ownership
  - Commitment to continued quality improvement
  - Teamwork

**Implications for Practice**

- Implementing programs that support practice review, collaborative discussion and engage front line clinicians in evidence implementation strengthen structure, and improve both process and outcomes.

**Sustainability**

- Issue awareness can impact variability in audit data.
- Quality drivers need to maintain focused attention to quality outcomes to sustain improvement.
- Maintain standardized care processes.
- Flexibility/adaptability in education, evaluation and dissemination.

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