Purpose

Although patient turning is the mainstay of pressure ulcer prevention, it has been well established that compliance to turning protocols is poor (varies from 38%-66%-1-5). This performance improvement project was designed to improve our understanding of patient movement and to optimize patient turning on a busy 27-bed medical/surgical unit, where patients are prescribed a 2-hour turning protocol.

Methods

An FDA-cleared, wearable wireless patient monitoring system (Leaf Healthcare, Pleasanton, CA) was deployed on the unit. The system continuously monitors patient movement and records all patient turns. Individualized turning parameters could be prescribed for each patient. Visual cues indicated when a turn was due and the turn clock automatically reset for any turns (including patient self turns) that met prescribed angle and tissue decumulation thresholds.

Results

3,287 hours of position data were gathered from 69 patients over 31 days. Braden scores were recorded on all patients. Average turn protocol compliance was 90.3% but varied widely throughout a 24-hour period.

Periods of lower compliance coincided with shift changes, typical patient admit times and medication delivery times. Highest compliance was found in patients with Braden scores of 19-23 and below 14 (92%). No patients below 13 were monitored during the time period.

Patients considered at mild risk (15-18) had the lowest turn compliance (79%), which supports literature claims that patients’ level of mobility is generally overestimated by nursing staff6.

<table>
<thead>
<tr>
<th>Braden Scale by Risk Category</th>
<th>No. of Patients</th>
<th>Avg Compliance (range)</th>
<th>Avg turns per patient per Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Risk (19-23)</td>
<td>53</td>
<td>92% (32%-100%)</td>
<td>1.2 – 42.8</td>
</tr>
<tr>
<td>Mild Risk (15-18)</td>
<td>13</td>
<td>79% (55%-99%)</td>
<td>1.2 – 13.3</td>
</tr>
<tr>
<td>Moderate Risk (13-14)</td>
<td>2</td>
<td>92% (89% - 100%)</td>
<td>2 to 7.9</td>
</tr>
</tbody>
</table>

Conclusions

Our data provides evidence to support excluding patients with high mobility/activity levels from turn protocols. It’s also clear there’s a need for increased vigilance for patients at mild risk, who had the lowest turn compliance and who have a high HAPU incidence rate. The compliance by time-of-day analysis highlighted opportunities to improve staff efficiency by reorganizing nursing tasks. Data also provided insight on how adjusting staffing levels during periods of high nursing demand, such as shift changes, could improve patient care.

References