Sustaining Positive Outcomes with a Progressive Upright Mobility Program Protocol in Cancer Patients

Anne Newbert BSN, RN, CCRN, Richard Wright BSN, RN, Jason Bash BSN, RN, CPAN, CCRN, Paul Gehringer BSN, RN, WCCN, Stephanie Ashton BSN, RN, CCRN, Joanne McGovern MSN, RN, CCRN

Background:
Critical illness associated with immobility leads to significant morbidity including increased ICU and hospital lengths of stay (LOS) and prolonged deconditioning. Several prior studies have demonstrated improvements in LOS and ventilator days when early institution of mobility programs are utilized; however, malignancy and short expected life span have been exclusions from all prior studies. The purpose of this retrospective investigation was to examine the safety and effectiveness of a Progressive Upright Mobility Program (PUM) in critically ill, ventilated cancer patients.

Project Aim:
Demonstrate a reduction in patient ventilator days, ICU and hospital lengths of stay.

Project Actions Taken:
A stepwise multidisciplinary PUM protocol was developed and followed in all mechanically ventilated patients admitted to a single subspecialty cancer hospital ICU. Data from control period (Pre) was compared to post-intervention (Post) data. Information included demographics, severity of illness, ventilator days and LOS.

Summary of Results:
The post protocol data demonstrated a statistically significant decrease in the areas measured; mean ventilator days, ICU LOS and hospital LOS. Despite oncology patients having a high severity of illness and likely functional decline, they proved to show the same beneficial results of early mobilization as previously studied groups.

Results

![Graph showing results of Progressive Upright Mobility Program](image)

**Phases**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Ventilator Days</th>
<th>ICU LOS</th>
<th>Hospital LOS</th>
<th>VAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>6.3</td>
<td>10.2</td>
<td>20.9</td>
<td>4</td>
</tr>
<tr>
<td>Post 2015</td>
<td>5.2</td>
<td>8.5</td>
<td>20.5</td>
<td>1</td>
</tr>
<tr>
<td>Post 2016</td>
<td>3.6</td>
<td>7.5</td>
<td>14.1</td>
<td>0</td>
</tr>
</tbody>
</table>

*p value*:

- Pre vs Post 2015: p=0.001755
- Pre vs Post 2016: p=0.001061
- Post 2015 vs Post 2016: p=0.00064

Statistical analysis of the data included comparisons of means and analysis of variance (ANOVA).

Protocol

![Protocol diagram](image)

Summary of Results:
The post protocol data demonstrated a statistically significant decrease in the areas measured; mean ventilator days, ICU LOS and hospital LOS. Despite oncology patients having a high severity of illness and likely functional decline, they proved to show the same beneficial results of early mobilization as previously studied groups.

References