Patient Repositioning From Hospital To Laboratory: The Story Of The Nurse And The Patient
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Putting The Problem Into Perspective

Use Proper Body Mechanics
• Lift with back straight
• Lift with legs
• Get close to patient
• Grab onto the handles

But....
You would not lift heavy loads in industry
Why Would We In Healthcare?

- Living, moving thing
  - Not compliant oftentimes
  - Potentially dead weight
- Need to protect patient from further harm
- No handles
- Really heavy weight
  - More than 200 lbs

No Wonder There Are High Rates of Injury

Prevalence of Back Injuries
Prevalence of Shoulder Injuries

Prevalence of Neck Injuries

Prevalence of Upper Extremity Injuries
Prevalence of Lower Extremity Injuries

Why Patient Handling? Specifically Repositioning

Nurse Patient Handling Activities
What Is The Cause Of The Need For Repositioning Of The Patient?

The Culprit: Patient Migration

- Migration causes patient to touch heels to foot board
- Nurses reposition patient up in bed

Active Patient Migration

- Head of bed articulated up and down
- Body slides down the bed
Passive Patient Migration

- Head of Bed in Upright Position
  - Gravity pushes body down the bed

Quantifying Patient Migration

Markers placed on bony landmarks of body (7 markers) and key points on the bed frame (6 to 7 markers)

Outcome Variable

Net Migration When HOB Is Upright

Relative change in distance of trochanter from start to when head of bed was upright
Net Migration in Upright Position

What Can We Do?
Safe Patient Handling Devices

Repositioning Devices
Spine Loading

Some Devices Are Better Than Others
Are They Being Used In Reality

History Says, No Not All The Time
Overview of Study

Genesis of data collection
- Help facilities improve their SPHM programs
- Observation of trends
- Potential selection bias

Aggregate data from 50 hospitals; 12,672 beds; 1,328 RN interviews
- Average number of licensed beds 254/facility
- Ranged from 23 to 796 beds
- Personal Interviews of both Staff & Management
- Covers a 3-year period. 2015-2017 (48 facilities, 2 facilities from a prior year)
Summary of the Characteristics of the Hospitals Evaluated

<table>
<thead>
<tr>
<th>Licensed Beds</th>
<th>Med/Surg Units</th>
<th>Intensive Care Units</th>
<th>Number of Staff Interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>258.61</td>
<td>5.37</td>
<td>1.41</td>
</tr>
<tr>
<td>Minimum</td>
<td>23</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>796</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>12672</td>
<td>263</td>
<td>69</td>
</tr>
</tbody>
</table>

Staff Injuries

<table>
<thead>
<tr>
<th>Total Incurred Costs</th>
<th>$21,222,500/yr. (49 hospitals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average cost per facility</td>
<td>$433,112/yr.</td>
</tr>
<tr>
<td>Average number of Injuries per facility</td>
<td>20/yr.</td>
</tr>
<tr>
<td>Average number of Lost &amp; Restricted days per facility</td>
<td>425/yr.</td>
</tr>
<tr>
<td>Average cost for patient handling injuries per bed</td>
<td>$1,674.75/yr.</td>
</tr>
</tbody>
</table>

Patient Dependency

Average percent of patients with high dependency
• Med/Surg 56% (49 hospitals)
• ICU 77% (42 hospitals)

Higher levels of acuity observed across facilities
• Very few independent patients
### Expectations

**Observations that support expectations**

- Patient handling injuries are costly
- Lead to significant lost & restricted workdays
- Significant under reporting of pain and injuries by caregivers
- Lack of Policies and Procedures
- Repositioning most common task to cause injury
- Lack of compliance

### Safe Patient Handling Policy

**Only 24 hospitals had policies or directives**

- Only (6) hospitals had any staff that were aware of policy

<table>
<thead>
<tr>
<th>Existence of SPH Policy</th>
<th>Number of Hospitals</th>
<th>Number of Staff with Knowledge of P &amp; P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>24</td>
<td>685</td>
</tr>
<tr>
<td>No</td>
<td>25</td>
<td>643</td>
</tr>
</tbody>
</table>

### Perceived and Actual Most Difficult Tasks

<table>
<thead>
<tr>
<th>Task</th>
<th>Perceived Most Difficult Task</th>
<th>Actual Highest Injury Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reposition</td>
<td>1 55%</td>
<td>1 98%</td>
</tr>
<tr>
<td>Transfer Bed To and From Chair</td>
<td>2 69%</td>
<td>2 69%</td>
</tr>
<tr>
<td>Lateral Transfer</td>
<td>3 61%</td>
<td>3 61%</td>
</tr>
<tr>
<td>Transfer To and From Toilet</td>
<td>3 57%</td>
<td>4 51%</td>
</tr>
<tr>
<td>Transfer In and Out of Bed</td>
<td>4 35%</td>
<td>-</td>
</tr>
</tbody>
</table>
Injury Frequency And Rankings
Function Of Job Title

<table>
<thead>
<tr>
<th>Job Title</th>
<th>1st highest % of Injury</th>
<th>2nd highest % of Injury</th>
<th>3rd highest % of Injury</th>
<th>Weight Average [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurses</td>
<td>51.7%</td>
<td>26.4%</td>
<td>13.3%</td>
<td>78.8%</td>
</tr>
<tr>
<td>Nursing Assistants</td>
<td>50.1%</td>
<td>25.5%</td>
<td>12.0%</td>
<td>49.2%</td>
</tr>
<tr>
<td>Technicians</td>
<td>30.0%</td>
<td>16.0%</td>
<td>9.5%</td>
<td>26.3%</td>
</tr>
<tr>
<td>EMT</td>
<td>42.0%</td>
<td>23.0%</td>
<td>6.4%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Transporter</td>
<td>0%</td>
<td>17.0%</td>
<td>6.0%</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Injury Frequency And Rankings
Function of Hospital Department

<table>
<thead>
<tr>
<th>Task</th>
<th>1st highest % of Injury</th>
<th>2nd highest % of Injury</th>
<th>3rd highest % of Injury</th>
<th>Weight Average [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical/Surgical</td>
<td>34.3%</td>
<td>26%</td>
<td>11.8%</td>
<td>76.1%</td>
</tr>
<tr>
<td>Service</td>
<td>21.9%</td>
<td>16.1%</td>
<td>13.2%</td>
<td>36.5%</td>
</tr>
<tr>
<td>Intensive Care</td>
<td>22.1%</td>
<td>22.8%</td>
<td>12.5%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Other</td>
<td>65.3%</td>
<td>29.0%</td>
<td>17.0%</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

Pain Being Experienced

An average of 59% of all Nurses from these hospitals experienced pain/injury in past year related to patient handling.

Of those injured, an average of 87% did not report their pain/injury.
### Average Total Costs of Injury as a Function of the SPH Policy Status

<table>
<thead>
<tr>
<th>Status of Policy</th>
<th>Average Total Cost Per Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Policy</td>
<td>$30,108</td>
</tr>
<tr>
<td>Yes but No Knowledge</td>
<td>$27,482</td>
</tr>
<tr>
<td>Yes with Knowledge</td>
<td>$21,820</td>
</tr>
</tbody>
</table>

### Policies & Procedures

- Most organizations lack “complete” policies and “unit-based” procedures (tool) to link patient assessment with appropriate handling device
- Most staff not aware of their responsibilities under the SPHM policy (if one exists)

### Education & Training

- Most caregivers have attended equipment training.
  - Many report this training referring to SPHM P & P
- Most staff had not been educated on responsibilities to use equipment
- Most staff not using a device with dependent patients, even though they have attended SPHM equipment training.
- Many organizations limiting time for new employee and refresher training
Equipment & Accessories

Many Organizations
- Lack appropriate devices for all of the patient-handling tasks performed in each department.
- Lack sufficient quantities of patient-handling devices.
- Lack organized equipment storage locations adjacent to patient rooms and treatment areas.

Take Home Message

1. Repositioning of the patient was by far the riskiest task performed by caregivers.
2. Nurses account for more injuries in the Hospital than any other caregivers.
3. Cost of injuries were independent of Hospital size.
4. While dependency levels of patients are greater for intensive care units, medical/surgical units have the most injuries.
5. Only 50% of Hospitals had SPHM policies, but those were not understood and not enforced.

Where Do We Go From Here?
Acknowledgement

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