Using HRO Methods as a Platform for Safe Patient Handling & Mobility

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Conflict of Interest Disclosure Statement

I have no financial interest or other relationships with the industry relative to the topics being discussed.
Safety is One

High Reliability
Patient Safety = Employee Safety

- Concepts directly apply to caregiver safety
- Shared values, tools and goals
- Institutional system for HRO creates framework for all safety initiatives
- Safe patient handling and mobility directly impacts both patient and caregiver safety
In The Same Net

Falls  Patient Handling  Sharps
Medication Errors  Wrong Surgery Site
Delay in Diagnosis or Treatment

Obsession With Failure

**Current Practice:**
We learn about patient handling issues **AFTER** an injury has occurred.

**HRO Practice:**
Learn about every failure **BEFORE** an injury occurs.

Staff RN asked me to help boost patient. When I reached for the ceiling lift, she changed her mind. Later I asked her why she does not prefer to use the lift, said it is "too slow" and the patient is so small. I reminded her that with a small patient she can still move her back and the patient's skin.

2 RN's for 2 different patients started to do a manual boost. They did use the lift when I asked to. In both instances, we forgot about the boom and had to move the bed after the patient was in the air.

Discussed false time perception

ICU Room Set Up Project
Child Proof Your Safe Patient Handling Program and Your Hospital!

Be Prepared for Work-Arounds

- Lets you learn about work-arounds to truly create a successful program!

Who Needs Thumbs!
Tactics:
• Effective Reporting System
• Post Event Swarm or Huddle
• Weekly Patient Handling Injury Event Review
• Notify Leadership
• Implement Strategies Based on Events
• Share Lessons Learned
• Daily Safety Huddles for Front Line Leaders
• 200% Accountability and Peer Checking/Coaching
• Teach Error Detection & Prevention Skills
• Near Miss / Good Catch Awards
Compressive Forces to Lumbar Spine

Pull Up in Bed – Two-person

Hook (under axilla)  5,655 - 6,069 N
Thigh & shoulder  6,480 - 6,570 N
Draw sheet  3,820 - 3,903 N

“Easiest” method exceeds 3,400 N safety limit


One-Person
Hug Lift  6,336 N

Two-Person Lift
4,600 to 4,895 N

Patient lifting exceeds safety limits for weight & compressive force to spinal discs

Back Compression Comparison

Design Goal – ≤3400 N
Design Limit = ≥6400 N

<table>
<thead>
<tr>
<th>Nurse</th>
<th>No Ceiling Lift – Manual Transfer</th>
<th>Ceiling Lift – Mechanical Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse 1</td>
<td>13,225 N</td>
<td>2,162 N</td>
</tr>
<tr>
<td>Nurse 2</td>
<td>12,923 N</td>
<td>1,860 N</td>
</tr>
<tr>
<td>Nurse 3</td>
<td>13,557 N</td>
<td>2,494 N</td>
</tr>
</tbody>
</table>

Proper Body Mechanics is not Ergonomics
Proper Body Mechanics is not Ergonomics
How Can I Use This Information at My Healthcare Facility?

SPHM Ergonomic Tool

BMAT is the ERGONOMIC EVALUATION TOOL THAT FITS THE CAREGIVER TO THE TASK

IT ANALYZES THE TASK & SUGGESTS THE RIGHT TOOLS
Near Miss Reporting System/ Event Follow-Up

- Non-Punitive
- Fast and Easy
- Meaningful Categories
- Encourage Reporting!
- Immediate Management Follow Up

Are slings available?
Is there enough equipment?
Is there peer coaching?
Do we need different slings or tools?
Is power distance affecting care.
Are we educating family and patients properly?
Are there clinicians who need specific education?
Is everyone adequately trained?
Are assessments accurate?
RL6 Reports (PEARL)

“Practicing Event Accountability in RL”

There is no repositioning/highback slings in the supply room. Linen called and only had two slings available.

Pt. needs frequent repositioning in bed, lift room would be safer for pt and staff.

Patient unable to do 75% of his own repositioning in bed in a lift room, with a reposition sling underneath him asked me to "boost him up in bed" and requested that his wife help me. I explained to him that we use the overhead lift system with the reposition sling if he is unable to get himself back up in bed.

Event Follow Up

“Strong Responses to Weak Signals”

<table>
<thead>
<tr>
<th>Event Date</th>
<th>File ID</th>
<th>Department</th>
<th>Was lift equipment used?</th>
<th>Brief Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-27-2015</td>
<td>62876</td>
<td>Internal Medicine West</td>
<td>No</td>
<td>Patient attempts very weak so we lifted him with a lift which required 4 people and the CNA and I helped him. He asked us to help him back up in bed.</td>
</tr>
<tr>
<td>12-27-2015</td>
<td>62881</td>
<td>Internal Medicine West</td>
<td>No</td>
<td>Patient with severe LBP refused lift and attempted to get himself up in bed.</td>
</tr>
<tr>
<td>12-27-2015</td>
<td>62873</td>
<td>Internal Medicine West</td>
<td>No</td>
<td>Patient refused lift and attempted to get himself up in bed.</td>
</tr>
</tbody>
</table>

- 3 reports on the same patient – no OSHA – 2 near miss
- 12/28/15 - Morning Safety Huddle – CNO stated in the huddle she supported not moving patient unless they allow lift equipment use.
- Unit manager and SSC met with family after the huddle.
- Lift use began
- Severe injury avoided to our caregivers and to the patient
- All occurred within 24 hours
Near Miss Follow Up

Pertinent Information From Reporting System February 9, 2015

Specific Event Type: Patient Handling
Type of Person Affected: Associate
Injury Incurred? No
Equipment Involved/Malfunctioned? No
Was lift equipment used? No
If no, why wasn’t this used? (Explain): the nurse didn’t seem to think it mattered. As i used my voice about concern, she again didn’t seem to think it matter.
Brief Factual Description: I went up to image the patient in room ####. The patient was in a room with a lift however there was no sling under the patient. The patient could not move at all. I told the nurse the patient need a sling and she didn’t seem to care. Again i spoke up when the nurse asked me to help boost the patient up that this patient needs a sling. No one was injured today but this patient can’t move and someone will eventually get injured or injury to the patient.
Immediate Actions Taken: I voiced my concern about this patient not having a lift, she didn’t seem to think it mattered. Again i voiced my concern about this situation. I asked the nurse. I used CUS but it didn’t matter.

Power Distance with Float Nurse

Near Miss Reporting System Example

Meeting Scheduled February 11, 2015
Outcome: Patient had been on unit 3 days so sling should have been placed prior to this incident. Lack of mobility may be a contributing factor to patient’s pain and low grade fever. SBAR was also done with PACU for sling placement on patients prior to transfer to the floor. Also discussed in Daily Safety Huddle, SPH committee, Email, Department huddles.

Results:
1. Employee who spoke up was rewarded and supported
2. Departmental issue learned and addressed from a near miss event with no harm
3. Late adopters are held accountable after initial attempt to ignore incident
4. Closed some holes in the Swiss cheese
5. SSC on Unit understands proper practice and support
6. Unit Manager shared SBAR with all clinical departments involved
7. Blunt End strategies were developed and implemented to support sharp end

Long Term:
1. Culture is changed from “bottom up” and “top down” with each incident properly addressed.
Weekly Event Review / Shared Lessons

• Discuss all Near Miss, Events of Harm and OSHA
• Discuss specific lessons learned
• Discuss shared lessons learned
• Discuss initiatives
• Aid in Blunt End Strategy Development
**Multiple Barriers** - technology, processes, and people - designed to stop active errors (our “defense in depth”)

- Caregivers Not Using Available Lift To Reposition Patient
- Sling is not under patient, training inadequate, low par levels, battery died
- C.N.A. is develops a back injury.

**Events of Harm**

- Patient Develops Deep Tissue Injury and Stage 4 Pressure Ulcer

**Cover Holes in the Swiss Cheese**

- The blunt end structures cannot prevent all errors, so the sharp end behaviors must exist always

Adapted from R. Cook and D. Woods, Operating at the Sharp End: The Complexity of Human Error (1994)
• ED Injury
• SNF patient arrived in wheelchair
• No hand-off
• No mobility assessment performed

Peer Checking & Coaching
We are ALL 200% Accountable!

**Peer Checking**
Watching-out for each other. Peers share situational awareness and provide on-the-spot second opinions.

**Peer Coaching**
Involves feedback. Peers provide a 5:1 ratio of positive to negative feedback to reinforce good habits, extinguish poor habits, and build better practice habits.

**Multiply Your Error Probability**

\[ 0.001 \times 0.001 = 10^{-6} \]

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**Peer Checking/Coaching & 200% Accountability**

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What happens to the tissues of our patients when we manually “Boost” them?

Initial Boost:
1. Muscles stretch off sacrum
2. Sacrum remains stable (muscle may overstretch and tear)
3. Sacrum moves after muscle is pulled

3 Ways We Learn

**Skill Based Performance**
- Auto Pilot Mode
  - Routine, familiar tasks
  - 30 in 10,000 errors per day
  - 0.3%
  - forget to hook up one sling loop

**Rule Based Performance**
- If-Then-Response Mode
  - Respond to situation using rule we were taught or learned through experience
  - 1% Error Rate
  - choose to boost and not use lift

**Knowledge Based Performance**
- Figuring-It-Out Mode
  - Problem solving in an unfamiliar situation
  - 30% Error Rate
  - do not know how to use new equipment but try without asking for help
### Performance Action

<table>
<thead>
<tr>
<th><strong>Type of Error:</strong></th>
<th><strong>Error Prevention Strategy:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill Based-</td>
<td>Focus on proper technique</td>
</tr>
<tr>
<td>“Auto Pilot”</td>
<td>for sling loop placement</td>
</tr>
<tr>
<td>Rule Based-</td>
<td>Create better location for slings</td>
</tr>
<tr>
<td>“How we’re taught or noncompliance”</td>
<td>enforce management expectations</td>
</tr>
<tr>
<td>Knowledge Based-</td>
<td>Find Lift Champion or Site Safe</td>
</tr>
<tr>
<td>“Lack of knowledge”</td>
<td>Patient Handling Coordinator</td>
</tr>
</tbody>
</table>

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**Culture Will Not Change Without Manager Knowledge and Accountability**

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**YOU WANT THE TRUTH?**

**YOU CAN'T HANDLE THE TRUTH!!!**
Daily Check-in for Safety
Patient Handling Examples

- Chair removed from patient room – contributed to fall
- Sling loops need to be tucked in
- No lift room available during high census
- Report out standard metrics
- Report that nurse was asked to boost patient with sling under them
- Sling par issue poorly managed

Associate Safety Tip:
What Should I do if no Blue Reposition Slings are available?

2. Call Materials Management and request a Gold reposition sling if leg support is not needed.
3. Please let your manager know there was a par issue so that our Safe Patient Handling Committee can work to solve this issue.
4. Consider using a limb lifter

Follow up promotes more reporting!!
One Safety Metrics for SPHM

<table>
<thead>
<tr>
<th>Patient Safety</th>
<th>Caregiver Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse Missed Work (Turning and Ambulating)</td>
<td>PHI due to turning and ambulating</td>
</tr>
<tr>
<td>Deep Tissue Injury Related to Friction / Shear</td>
<td>PHI due to boosting patients in bed</td>
</tr>
<tr>
<td>Skin Stripping injuries due to Friction / Shear</td>
<td>PHI due to boosting patients in bed</td>
</tr>
<tr>
<td>Atelectasis secondary to immobility</td>
<td>PHI due to lateral and vertical transfers</td>
</tr>
<tr>
<td>Pneumonia (VAP) due to immobility</td>
<td>PHI due to lateral and vertical transfers</td>
</tr>
<tr>
<td>Assisted Falls with and without Injury</td>
<td>PHI due to preventing decent</td>
</tr>
<tr>
<td>Muscle atrophy</td>
<td>PHI transferring dependent patient</td>
</tr>
<tr>
<td>Contractures</td>
<td>PHI transferring dependent patient</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>PHI transferring dependent patient</td>
</tr>
<tr>
<td>Bowel effects</td>
<td>PHI transferring dependent patient</td>
</tr>
<tr>
<td>Depression, anxiety, delirium (bed rest)</td>
<td>PHI transferring dependent patient</td>
</tr>
</tbody>
</table>

***PHI = Patient Handling Injury

Events of Harm Reached Patient

- Wound consult for radiation burns to coccyx, labia, groin, peri-rectum
- Nurse repositioned her in bed with lift for lunch
- Daughter mentioned it was not used before and that her mom’s skin was visibly coming off on to her pad when she was boosted
- Nurse wrote orders to use sling and told patient and daughter to insist on this.
- Nurse referred to SPHM policy in event reporting system

Skin Stripping injuries due to Friction / Shear → PHI due to boosting patients in bed

What other patient and caregiver safety concerns could arise with this patient when proper technology is not used during the course of care?
Outcomes 1 Year after HRO Robust SPHM Implementation

<table>
<thead>
<tr>
<th>Patient Handling Metrics</th>
<th>System Metrics (All Injuries)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lost &amp; Restricted time due to PHI</strong></td>
<td><strong>OSHA Incident Rate</strong></td>
</tr>
<tr>
<td>2014: 1581</td>
<td>SCL 2013: 4.80</td>
</tr>
<tr>
<td>2015: 880</td>
<td>SCL 2014: 4.25</td>
</tr>
<tr>
<td>↓41%</td>
<td>SCL 2015 (Best hospital): 2.75 (↓31%)</td>
</tr>
<tr>
<td>↓46% - 2016</td>
<td>National: 6.4</td>
</tr>
<tr>
<td><strong>OSHA Recordable due to PHI</strong></td>
<td><strong>OSHA Number of Injuries</strong></td>
</tr>
<tr>
<td>2014: 60</td>
<td>SCL 2013: 487</td>
</tr>
<tr>
<td>2015: 35</td>
<td>SCL 2014: 397</td>
</tr>
<tr>
<td>↓42%</td>
<td>SCL 2015: 275</td>
</tr>
<tr>
<td>↓13% - 2016</td>
<td><strong>DART Rates</strong></td>
</tr>
<tr>
<td><strong>Near Misses ↑100%</strong></td>
<td>SCL 2013: 1.83</td>
</tr>
<tr>
<td></td>
<td>SCL 2014: 1.67</td>
</tr>
<tr>
<td></td>
<td>SCL 2015: 0.98</td>
</tr>
</tbody>
</table>

Event Sharing for Growth and Sustainability

- Story of Event
- SWARM or Huddle
- Group Problem Solving
- Share Education, Process Change, Solution
- Gap Determination
- Gap Overlap
- Communication
  - Encourages Reporting
  - Awareness
  - Solves Problems
  - Identifies Common Gaps

The Journey to High Reliability in Healthcare