Safe Patient Handling Across the Continuum

Building Bridges Conference
Marquette University
May 9, 2014
Objectives

• Define a Safe Patient Handling Program (SPH)
• Understand the rationale for implementation and sustentation
• Describe the National Institute of Occupational Safety and Health’s (NIOSH) lifting limits recommended for patient/resident handling
• Describe the evidence based supporting SPH
• Review the American Nurses Association Interprofessional Safe Patient Handling and Mobility Standards
• Describe/demonstrate examples of SPH equipment
What is Safe Patient Handling?
History of Nursing and Patient Handling

Since the emergence of the nursing profession musculoskeletal hazards have been accepted as an inherent part of the job. When a nurse was injured they have often been blamed for their lack of strength and poor lifting technique.
“I have good body mechanics, when I lift and move patients.”
Incidence rate and number of injuries and illnesses for occupations with 20,000 cases or more, all ownerships, 2012

- Laborers and freight, stock, and material movers: 391 cases and 63,690 injuries
- Nursing assistants: 426 cases and 44,100 injuries
- Heavy and tractor-trailer truck drivers: 292 cases and 41,840 injuries
- Janitors and cleaners, except maids: 263 cases and 38,610 injuries
- Police and sheriff's patrol officers: 570 cases and 32,190 injuries
- General maintenance and repair workers: 285 cases and 29,800 injuries
- Registered nurses: 130 cases and 25,810 injuries
- Light truck or delivery service drivers: 357 cases and 25,220 injuries
- Retail salespersons: N/A
- Stock clerks and order fillers: 168 cases and 24,550 injuries

Ten occupations had 20,000 or more cases across all ownerships. Laborers and freight, stock, and material movers had the highest number of cases and increased 12 percent from 2011. Police and sheriff's patrol officers had the highest rate of injury and illness and decreased 4 percent from 2011. Rates for the retail salespersons occupation category are not available for 2012.

• Back is like a Teeter-Totter: Disc=Fulcrum (balance point)
• The farther away from the fulcrum (balance point), the more force has to be applied to the other end.
• Even small increases in distance from disc result in much higher forces on disc.

Torques on Both Sides of the Fulcrum (Disc) Must Be Equal

Distance A  Distance B

\[ F_{\text{Back Muscles}} \times A = \Sigma (F_{\text{Loads}} \times B) \]
Lumbar Spine

3400 N
Compression

vertebrae (bone)
disc
Intervertebral Endplates
Disc Nutrition

Vertebral Body

Vertebral End Plate

Disc
Loss of Disc Nutrition
Excessive Biomechanical Forces (Overexertion)

↓

Endplate Microfracture

↓

Scar Tissue Formation

↓

Reduced Disc Nutrition

↓

Disc Degeneration

↓

Loss of Disc Height  Weakening of Annulus (disc wall)

Facet Joint Compression  Nuclear Disc Herniation

Osteophyte Formation  Nerve Root Compression

Loss of Spinal Mobility  Pain  Loss of Sensorimotor Function

↓

Decreased Tolerance and Work Capacity
NIOSH Lifting Standards

The Maximum lift within ideal situation is **51 lbs**. Any deviation from the ideal lift requires the weight to be reduced to keep it a safe lift or use of mechanical assistance.
Research has evaluated the safety of patient handling tasks.
One Person Hug

Two Person Hook and Toss

One Person Hook

Two Person Draw Sheet
Spinal Compressive Force (N) as a Function of Transfer Technique
Marras et al 1999

The study demonstrated all transfer techniques resulted in more than 3400N of compression on the spines of the subjects.
NO SAFE WAY TO MANUALLY LIFT PATIENTS!
NIOSH Patient Lifting Standards

• The Recommended Weight Lifting Limit for patients was determined to be **35lbs**

• 35lbs also applies to pushing and pulling
Safe Patient Handling equipment

- Ceiling mounted lifts
- Floor based lifts
- Friction Reducing Devices
- Air Assisted Devices
- Powered commodes
- Powered stretchers
Safe Patient Handling Benefits

**Hospital**
- Decreased injuries from patient handling tasks
- Decreased costs related patient handling
- Solidification of a designation as an “employer of choice”
- Improved staff recruitment and retention
- Increase in staff satisfaction
- Improved perception of professional status and task requirements
- Enhanced regulatory compliance
- Improved staff efficiency
- Facilitation of a culture of safety
- Improved patient safety

**Patient**
- Early mobility
- Decreased pressure ulcers
- Decreased falls
- Improved functional mobility outcomes (FIM)
- Dignified and comfortable movement
American Nurses Association Safe Patient Handling and Mobility Standards

1. Create a Culture of Safety
2. Implement and Sustain a SPHM Program
3. Incorporate Prevention through Design Providing a Safe Environment of Care
4. Select, Install, and Maintain SPHM Technology
5. Establish a System for Education, Training, and Competency
6. Incorporate Health Care Recipient Centered Assessment, Care Planning, and Use of Technology
7. Include SPHM in Reasonable Accommodation and Post Injury Return to Work
8. Establish a Comprehensive Evaluation Program
Create a Culture of Safety
What does that look like?

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Healthcare Worker</th>
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<tr>
<td>• Establish a commitment to safety</td>
<td>• Participate in creating and maintaining a culture of</td>
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<tr>
<td>• Establish a nonpunitive environment</td>
<td>safety</td>
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<td>• Right of refusal</td>
<td>• Notify employer of hazards</td>
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<td>• Safe level of staffing</td>
<td>• Use the system to communicate and collaborate</td>
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<td>• Communication and collaboration</td>
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Implement and Sustain a SPHM Program

- Facility Coordinator
- Equipment
- SPH Committee
- Policy
- Training
- Unit Peer Leaders
Incorporate Prevention through Design
Providing a Safe Environment of Care
Establish a System for Education, Training, and Competency
Select, Install, and Maintain SPHM Technology

• Assess needs of unit

• Include frontline staff in the decision making

• Equipment fairs/trials

• Have a preventative maintenance plan
Health Care Recipient Centered Assessment, Care Planning, and Use of Technology

Algorithm 4 - Transfer from Floor

Radiology Links Guidelines

- If your patient cannot manually transfer themselves, use these Safe Patient Handling Devices.

- X-Ray: 42567
  Interventional / Angiography: 47395

- CT (CAT Scan): 46841
  Ultrasound: 46952
  MRI: 46951

Any questions... call the area or contact UPL's

Radiology UPL's:
  - Minny Kling: 42567
  - Heather Hinz: 42565

Aurora Health Care
Include SPHM in Reasonable Accommodation and Post Injury Return to Work

- Review and Investigate your employee injuries
- Facilitate early return to work following injury
Establish a Comprehensive Evaluation Program

Number of Employee Lifting/Repositioning injuries

Patient Fall Injury and Staff Lifting Injury Correlation and Improvement
Consider....

**Nursing Shortage** + **Aging Nursing Workforce** +

**Increased Size of Patients** + **More patients are sicker** + **Increased size of Bariatric Patients’ family members** + **Some Health Care Workers are obese**

= **HUGE SAFETY CONCERN**
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