

Safe Patient Handling and Mobility for Health Care Professionals

Concordia University Wisconsin

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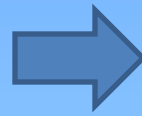
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Objectives

- Define Safe Patient Handling and Mobility (SPHM)
- Describe the National Institute of Occupational Safety and Health's (NIOSH) lifting limits recommended for patient/resident handling
- Describe the evidence supporting SPHM and emerging evidence for rehabilitation
- Describe/demonstrate examples of SPHM equipment

What is Safe Patient Handling and Mobility (SPHM)?



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

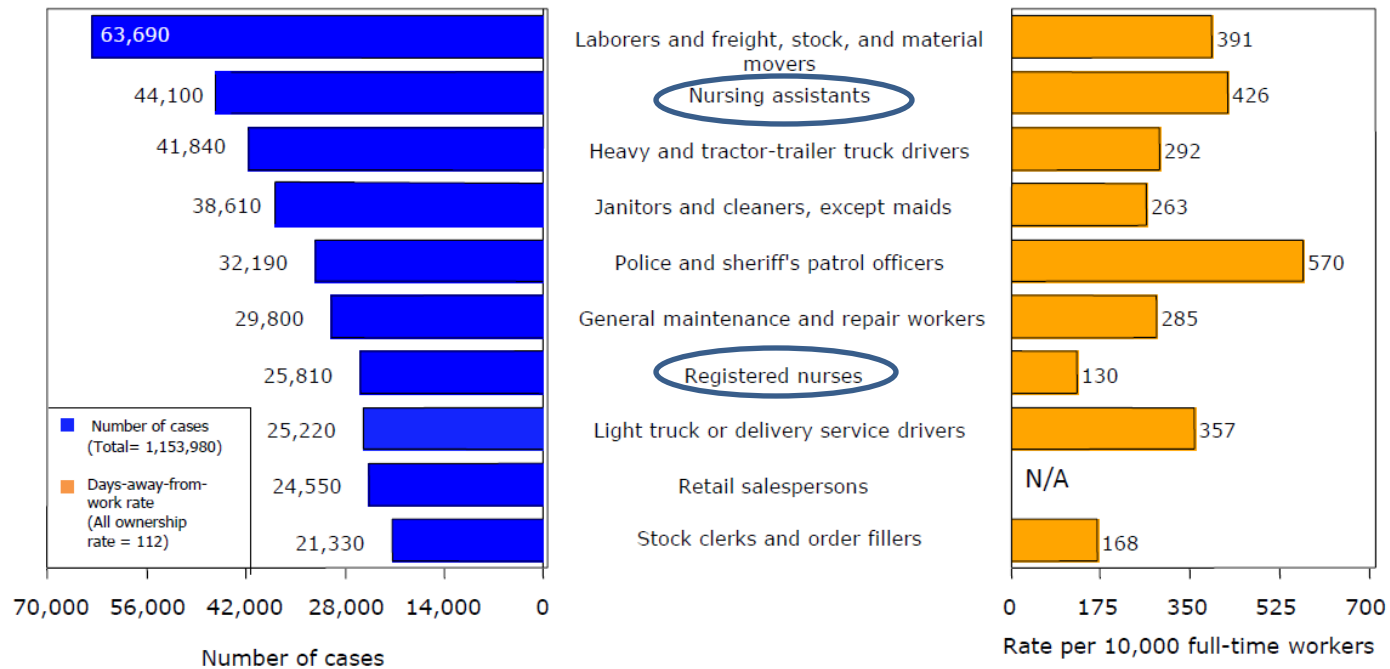
- Early mobility
- Positive outcomes
- Decreased pressure injury
- Decreased falls
- Improved functional mobility outcomes (FIM)
- Dignified and comfortable movement

“I have good body mechanics,
when I lift and move patients.”



Bureau of Labor Statistics 2012

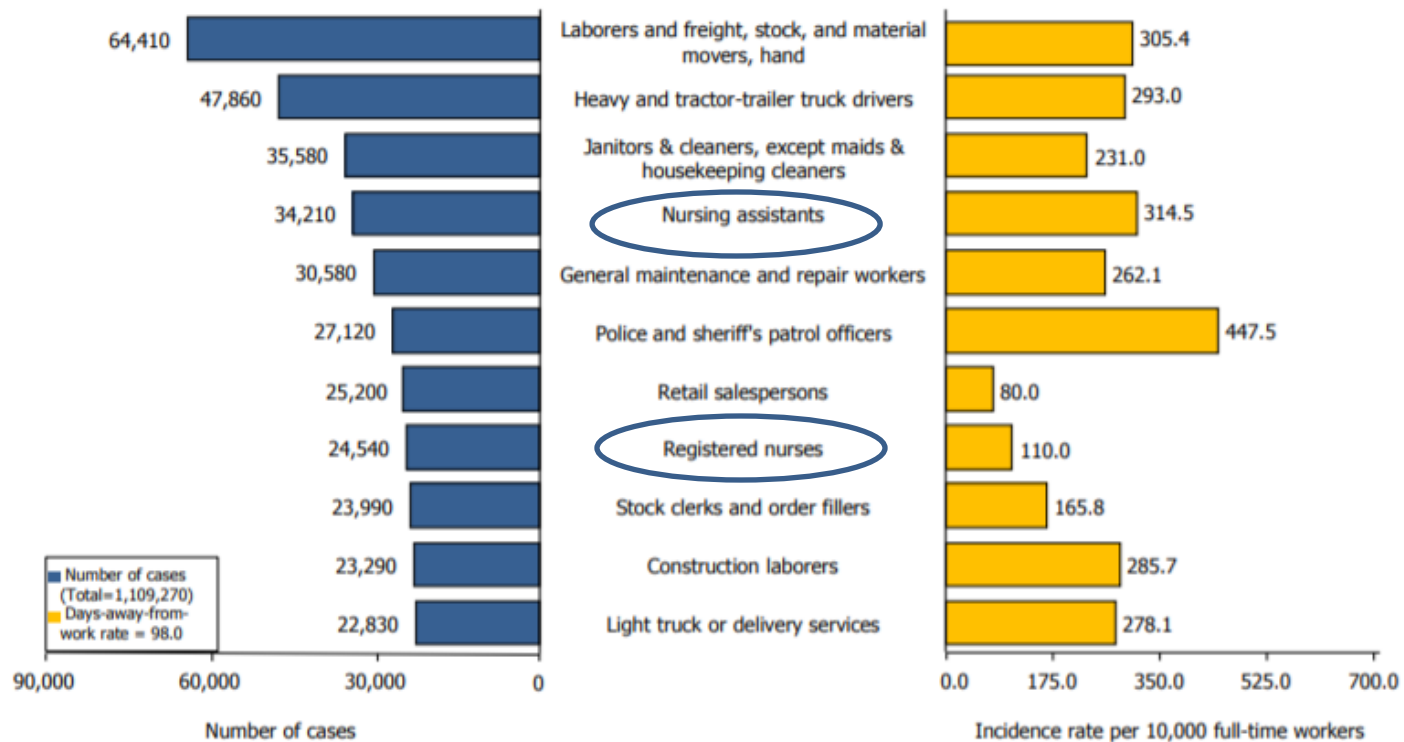
Incidence rate and number of injuries and illnesses for occupations with 20,000 cases or more, all ownerships, 2012



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.

Bureau of Labor and Statistics 2017

Nonfatal occupational injury and illness number of cases with days away from work and incidence rates for selected occupations with 20,000 cases or more, all ownerships, 2017



Eleven occupations had 20,000 or more days-away-from-work cases across all ownerships. Laborers and freight, stock, and material movers accounted for 6 percent of total cases resulting in days away from work. Police and sheriff's patrol officers had the highest rate of injury and illness among these occupations.

[View data](#)

Therapists Injury Stats

- Musculoskeletal Incidence Rates
 - 16.5 per 100 full time OTs
 - 16.9 per 100 full time PTs
- Annual WMSD incidence 20.7%
- Annual WMSD prevalence 27%*

* 22-73% prevalence in a review of 13 studies around the world



SPHM Evidence for Rehabilitation

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A SYSTEMATIC REVIEW OF SAFE PATIENT HANDLING AND MOBILITY PROGRAMS TO IMPROVE PATIENT OUTCOMES IN REHABILITATION

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Occupational therapists (OTs) and physical therapists (PTs) experience high rates of musculoskeletal injury due to moving and handling patients, however, widespread adoption of safe patient handling and mobility (SPHM) is lacking in rehabilitation. Researchers suggest that SPHM adoption is impeded by the belief that it encourages patient passivity and may negatively affect patient recovery. The purpose of this systematic review was to assess the current literature for the effects of SPHM programs on patient rehabilitation outcomes. Randomized or observational, peer-reviewed studies in English that had an SPHM intervention were included in the systematic review. Using international agreed-upon systematic review methods, 6 studies remained for the final analysis, but no high level and few acceptable level studies addressed the question. Based on level 3 evidence, the researchers concluded that rehabilitation with SPHM programs may lead to a reduction in pressure ulcers, at least equal functional independence measure (FIM) mobility scores at discharge, and an equal chance of reaching independence or modified independence in self-care at discharge as compared to those that did not. The authors conclude that more well-designed, high level studies are required.

Keywords: physical therapy, occupational therapy, safe patient handling and mobility, patient outcomes, systematic review

INTRODUCTION

Healthcare professionals experience serious and substantial work-related musculoskeletal disorders (WMSDs) due to moving and handling patients.¹ Evidence suggests that rehabilitation professionals are at risk for WMSD. Occupational therapists (OTs) and physical therapists (PTs) experience annual acute musculoskeletal injury incidence rates of 16.5 per 100 full-time OTs and 16.9 per 100 full-time PTs, an annual incidence of WMSD of 20.7%, and an annual prevalence for WMSD of 27%.^{2,3}

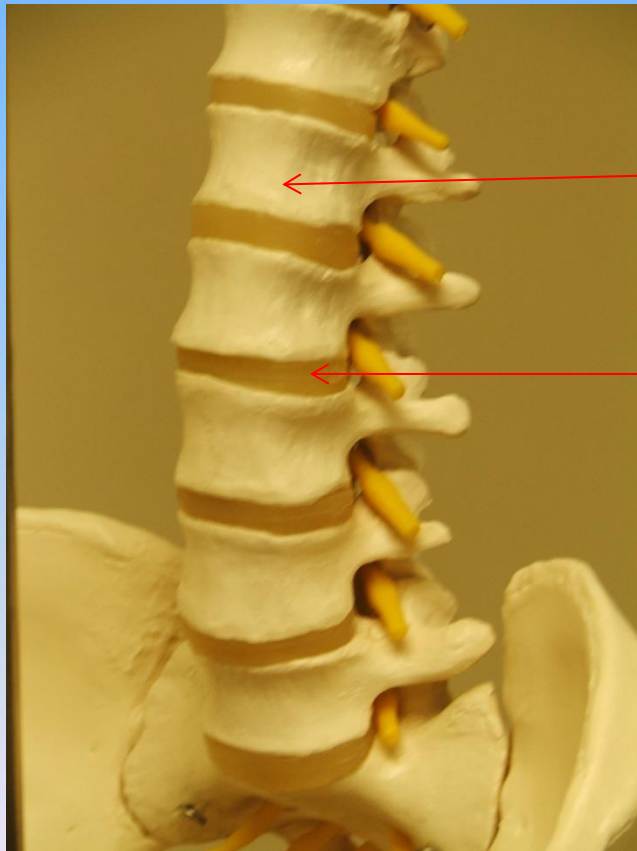
Exposure to activities such as lifting, handling, and transferring patients are believed to be one of the reasons for the increased risk of WMSD.^{4,7} Interventions to promote safe patient handling and mobility (SPHM) have successfully decreased injury incidence, severity, and costs to nurses and nurse's assistants.⁸⁻¹¹ Given the success of SPHM programs for injury reduction in nurses and nurse's assistants and that therapists perform many of the same lifting, handling, and mobility tasks, it is logical that SPHM programs may reduce injuries in therapists.

Rehabilitation professionals, particularly OTs and PTs, use

transfer and handling activities to facilitate patient recovery and independence. Although rehabilitation professionals are beginning to use SPHM equipment more frequently, it has been suggested that there may be a bias against using SPHM equipment within rehabilitation practice.^{12,13} This bias may be rooted in the belief that SPHM equipment encourages patient passivity during transfer, gait, or self-care activities and may impede patient progress and outcomes.^{14,15} Furthermore, it has been suggested that occupational and physical therapists resist using SPHM equipment because of a lack of guidance in using SPHM technologies to facilitate patient independence.¹²

The American Physical Therapy Association, the Veterans Health Administration, and the Association of Rehabilitation Nurses, in a 2004 white paper, recommended the pursuit of research on safe patient handling techniques that support the goals of patient and employee safety while optimizing patient rehabilitation.¹⁶ Waters and Rockefeller¹⁷ suggested the development of best practice guidelines as a strategy to counter the negative perceptions associated with SPHM programs. Given the prevalence of WMSD among OTs and PTs, and the risks inherent in patient handling, there is a clear need to develop guidelines for use by rehabilitation therapy personnel. An ini-

Lumbar Spine



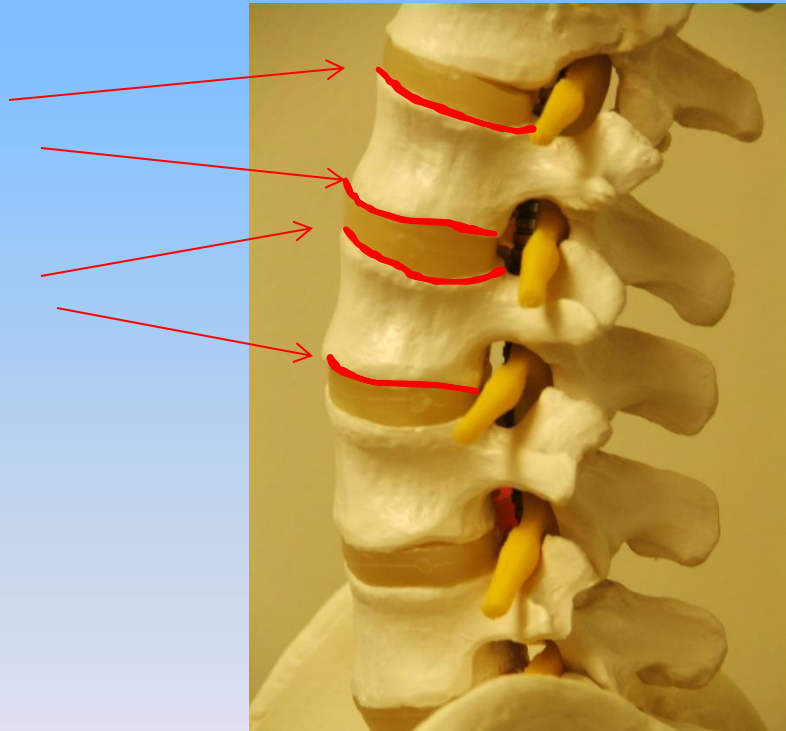
vertebrae
(bone)

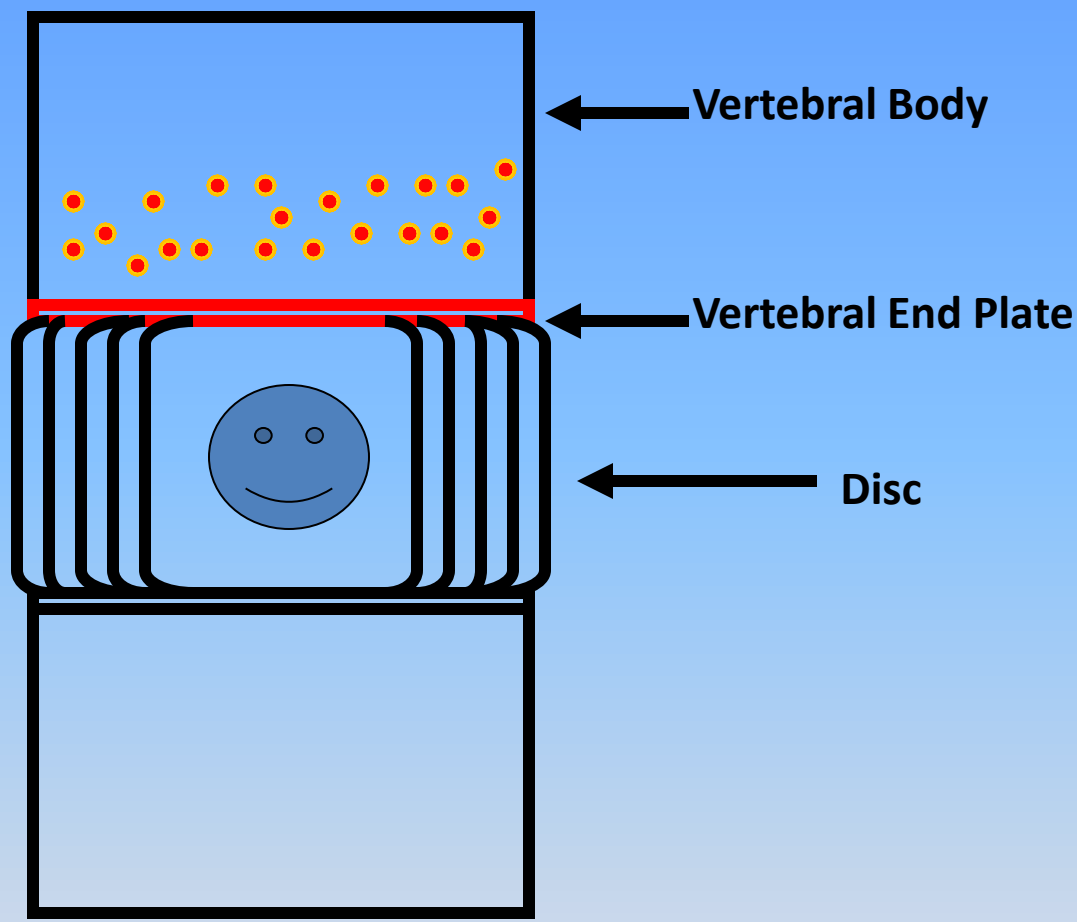
disc

3400 N
Compression

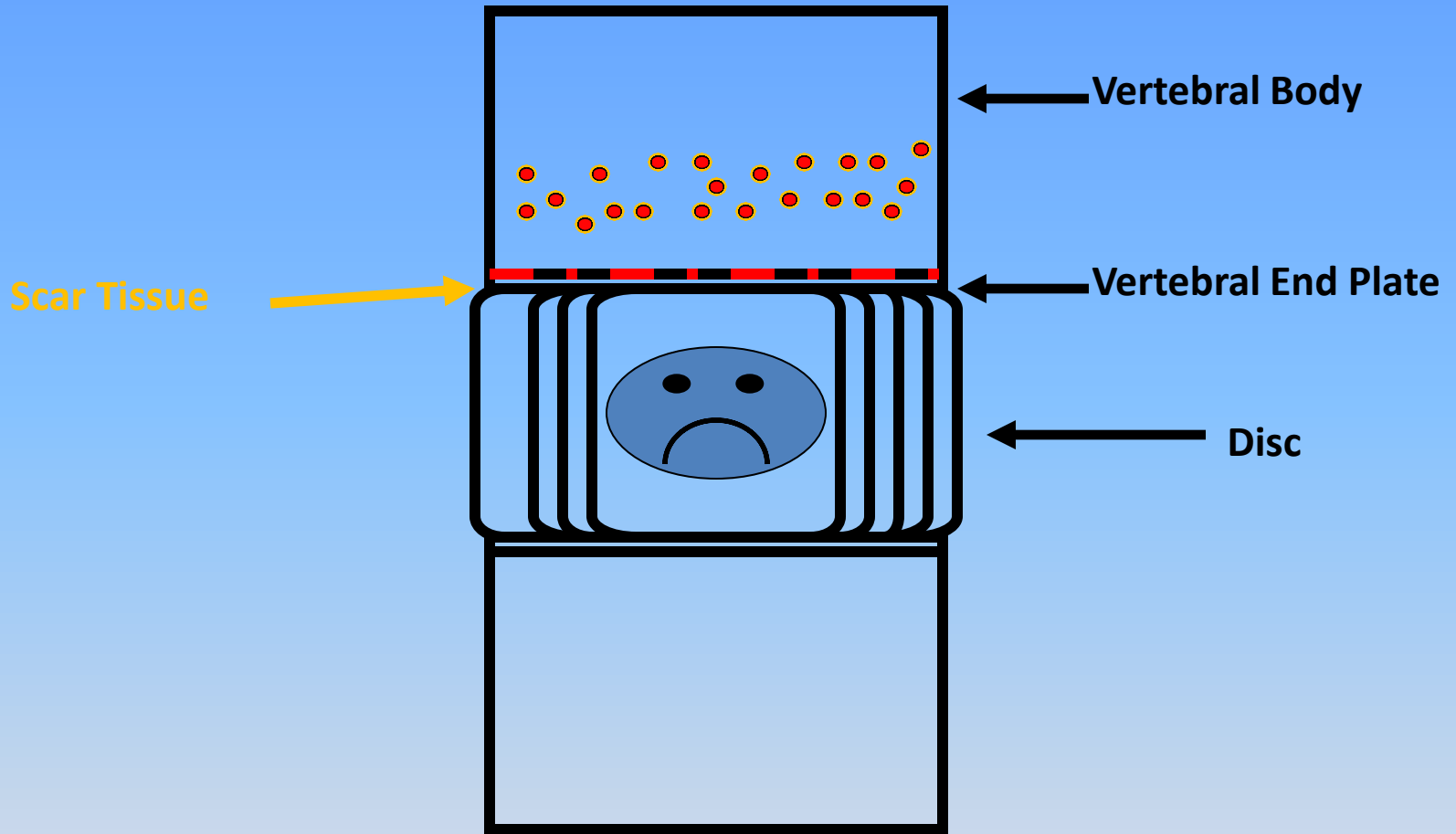


Intervertebral Endplates





Disc Nutrition



Loss of Disc Nutrition

Excessive Biomechanical Forces (Overexertion)



Endplate Microfracture



Scar Tissue Formation



Reduced Disc Nutrition



Disc Degeneration



Loss of Disc Height

Facet Joint Compression

Osteophyte Formation

Loss of Spinal Mobility

Pain



Decreased Tolerance and Work Capacity



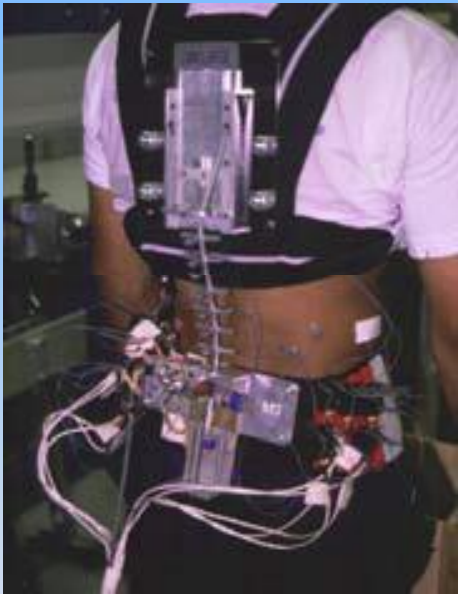
Weakening of Annulus (disc wall)

Nuclear Disc Herniation

Nerve Root Compression

Loss of Sensorimotor Function

Research has Evaluated the Safety of Patient Handling Tasks



Two Person Hook and Toss

One Person Hug



One Person Hook

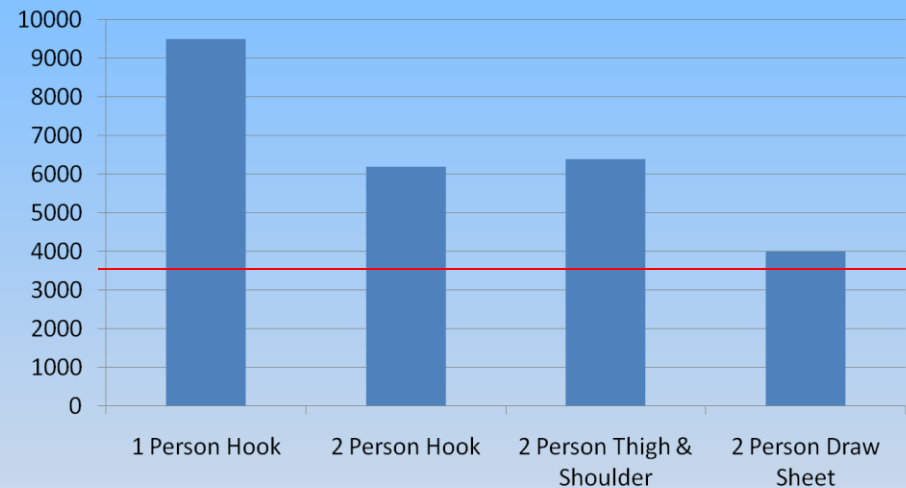
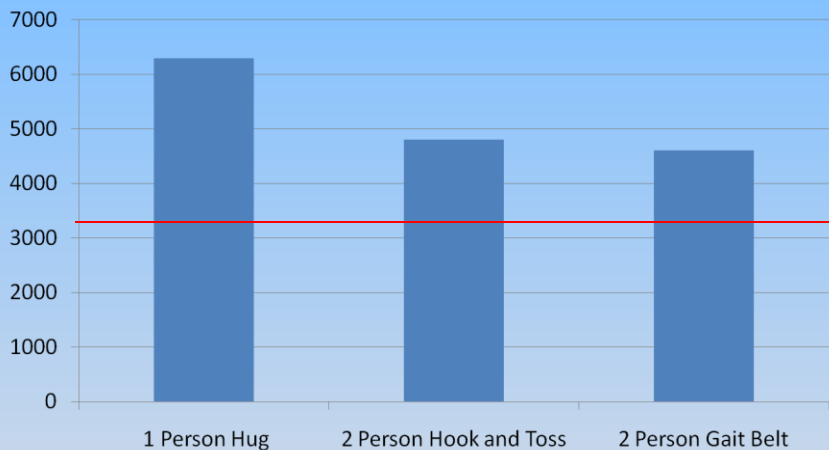


Two Person Draw Sheet



Spinal Compressive Force (N) as a Function of Transfer Technique

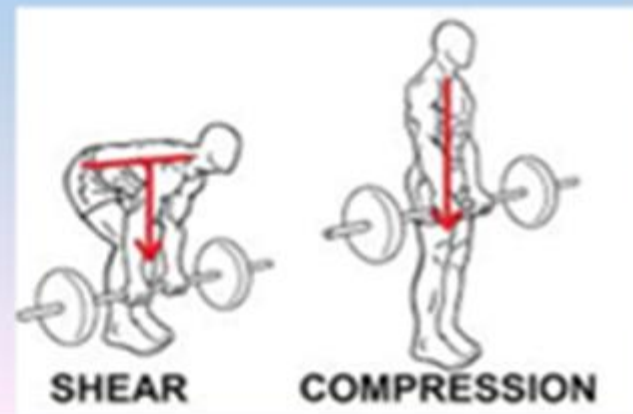
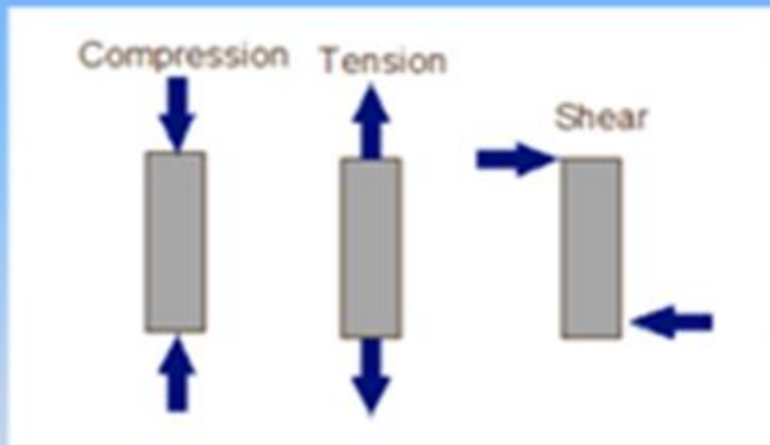
Marras et al 1999



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!

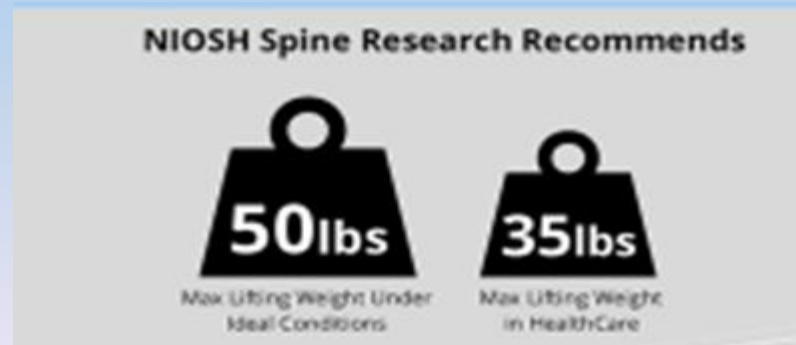
Shear

- Shear is the force that acts parallel to a surface, it creates a sliding of one vertebra with respect to another



NIOSH Patient Lifting Standards

- The Recommended Weight Lifting Limit for patient handling tasks is **35lbs**
- **35lbs** also applies to pushing and pulling
- The Recommended Weight Lifting Limit for inanimate objects is **50#** (i.e. box w/ handles)



Safe Patient Handling and Mobility Equipment

*CUW or today's speakers do not promote, endorse or recommend any one particular product or manufacturer.

- Friction Reducing Devices (FRD)
- Ceiling mounted lifts
- Floor based lifts
- Air Assisted Devices
- Power Assist
- Slings
- Specialty Walker
- Specialty Beds

Friction Reducing Devices (FRD)

- Functions Uses
- Weight Capacity
- Rehab Applications

Supine to Sit

<https://youtu.be/ST66NIAufu8>

Dressing

<https://youtu.be/qp9fHBnMs3U>

ROM

<https://youtu.be/QKri-5Ji08I>



Ceiling Lifts



- Functions / Uses
- Weight Capacity
- Rehab Applications



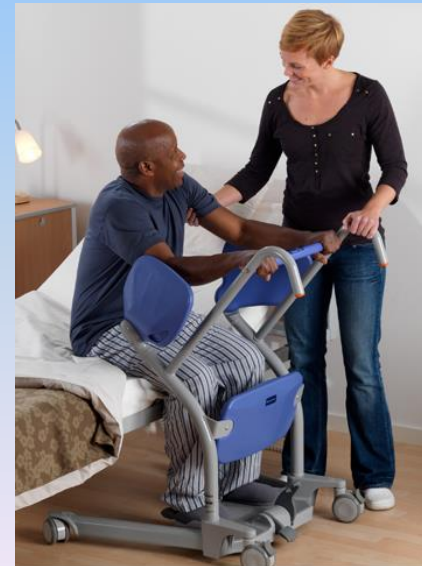
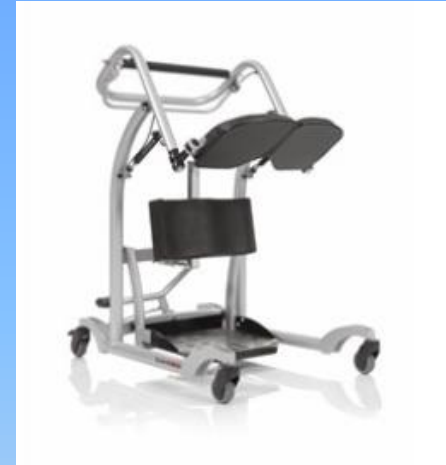
<https://www.youtube.com/playlist?list=PLbAiBrSQOQEmyqHGy-UVr3dQZy3X9NW>

Floor Based Lifts



- Functions Uses
- Weight Capacity
- Rehab Applications

Floor Based Lifts



Air Assisted Devices

- Functions / Uses
- Weight Capacity
- Rehab Applications



Power Assist

- Functions / Uses
- Weight Capacity
- Rehab Applications



Slings

- Functions / Uses
- Weight Capacity
- Rehab Applications



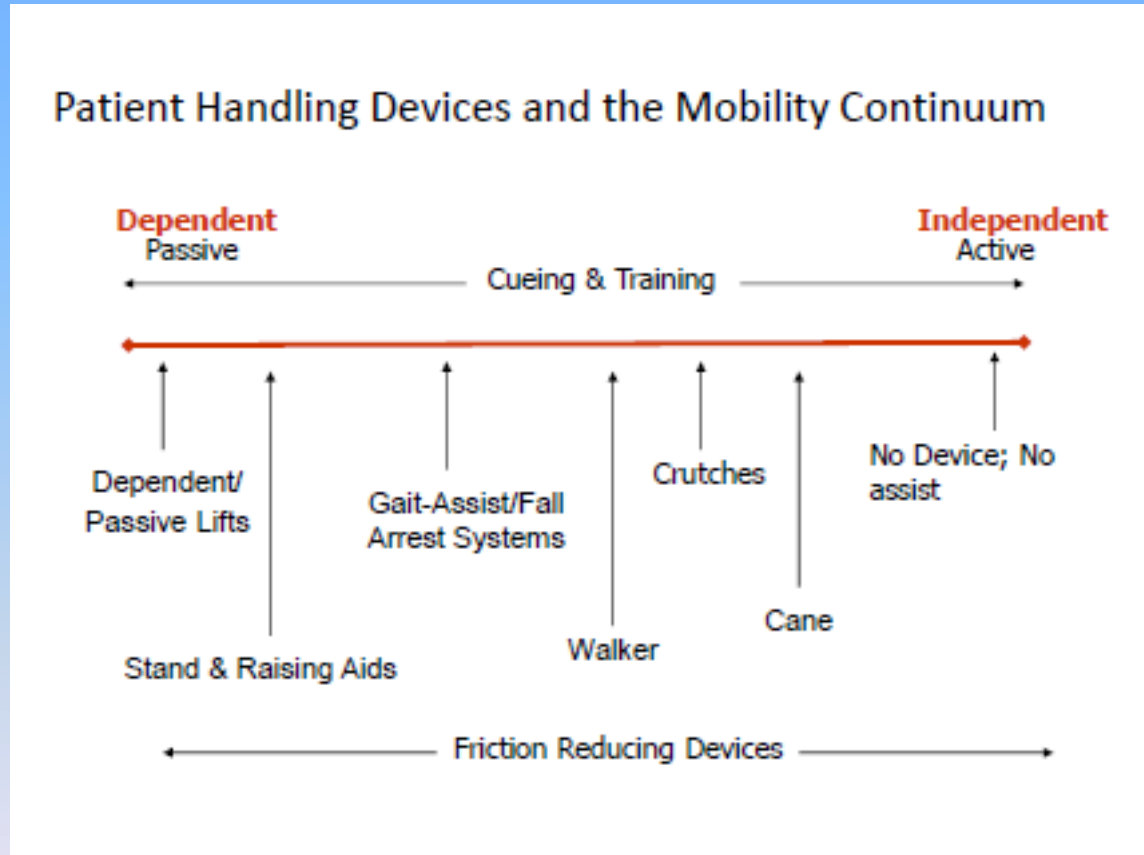
Specialty Walkers



Specialty Beds



Technology to Promote Mobility



Mobility Evaluation

Open Discussion

- Morse
- CMET
- Egress
- BMAT
- Quick 3 / Quick 5
- John Hopkins Highest Level of Mobility JH-HLM
- Other?

WHY SPHM?

**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

SPHM Resources

- ASPHP
- AOHP
- OSHA
- ANA
- VA
- IJSPHM
- NIOSH
- TJC
- CDC
- MIM
- Tampa VA National Conference

ASPHP

Association Safe Patient Handling Professionals

Membership:

Open to all in the practice and profession of SPHM.

Offers educational, professional and networking opportunities

Certification:

Opportunity to become recognized for specialized skills, knowledge and experience, leads to sustainable successful SPHM programs

Levels of Certification:

CSPHP - Professional

CSPHC - Clinician

CSPHA - Associate

<http://www.asphp.org>

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Questions & Hands On

