



Massachusetts Nurses Association Safe Patient Handling Task Force

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Description of the Problem

- Manual handling has been a job expectation for caregivers since Florence Nightingale's time, despite advances in other industries (e.g., manufacturing and shipping) that rely on technology not physical strength to do the heavy lifting. However, some healthcare facilities have been slow to adopt new patient-handling technologies and still rely on old-fashioned manual handling.

Nelson, A., Motacki, K., Menzel, N. (2009). *The illustrated guide to safe patient handling and movement*. New York, NY: Springer Publishing Company

- Healthcare workers often experience musculoskeletal injuries at a rate exceeding those of workers in construction, mining, truck driving, maintenance work, and manufacturing. These injuries are commonly related to repetitive motions and manual patient handling activities, which involve heavy manual lifting associated with transferring, and repositioning patients and working in extremely awkward postures.

National Institute for Occupational Safety and Health [NIOSH]. (2009). *Preventing back injuries in healthcare settings*. Retrieved May 24, 2010 from http://www.cdc.gov/niosh/blog/nsb092208_lifting.html;

U.S. Bureau of Labor Statistics. (2009). *Nonfatal occupational injuries and illnesses requiring days away from work, 2008*. Retrieved May 24, 2010 from http://www.bls.gov/news.release/archives/osh2_12042009.pdf

- According to national statistics, six of the top ten professions with the greatest risk of back injuries are: registered nurses, nursing assistants, licensed practical nurses, health aides, radiology technicians, and physical therapists.

Premier, Inc. (2010). *Back injury prevention*. Retrieved May 24, 2010 from http://www.premierinc.com/safety/topics/back_injury

- The Bureau of Labor Statistics (BLS) classifies health care patients as a direct cause of on-the-job injuries. A back injury occurs every 30 minutes among health care workers in America, and nursing is one of the occupations at highest risk for injury. According to the BLS, 87% of nurses report lower back pain, 38% suffers from back pain, or injuries that require time off from work, while 44% are unable to return to the nursing profession.

Sigvardsson, H., & Bogue, B. (2004). *No lift success story*. Retrieved May 24, 2010 from http://ohsonline.com/Articles/2004/07/No-Lift-Success-Story.aspx?sc_lang=en&Page=1

- Direct costs to employers: The estimated average cost per workers' compensation claim is \$24,000. If surgery is involved, the cost increases to approximately \$40,000 or higher per injury.

Premier, Inc. (2010). *Back injury prevention*. Retrieved May 24, 2010 from http://www.premierinc.com/safety/topics/back_injury

- Potential indirect costs to employers: decreased employee job satisfaction, decreased quality of patient care, continual employee hiring and training, use of replacement workers, overtime pay, incident reporting and other paperwork, increased costs of worker's compensation insurance, and increased costs of employees' healthcare.

(Premier, Inc., 2010)

- In the setting of the current nursing shortage in the US, nurses might be at greater risk for injuries due to longer work hours, demanding schedules, and the lack of proper staffing ratios. Some nurses attempt patient handling tasks alone and increase their risk of injuring both their patients and themselves due to poor staffing. Maintaining healthcare workers' health and reducing injuries is critical.

(NIOSH, 2009)

- The task of safely lifting patients is more difficult because of the obesity epidemic in the United States as well as the rapidly increasing number of older patients who require assistance with the activities of daily living. The increase in bariatric patients has led lifting equipment manufacturers to develop equipment with higher weight capacities to accommodate the needs of heavier patients.

(Nelson, et al., 2009);

Ogden, C., Carroll, M., Curtin, L., McDowell, M., Tabak, C., & Flegal, K. (2006). Prevalence of overweight and obesity in the United States, 1999-2004. *Journal of the American Medical Association*, 295, 1549-1555.

Handling and Lifting Problems Unique to Healthcare Workers

There is an increased risk of injury for healthcare workers in nursing homes, rehabilitation facilities, geriatric units, and spinal cord injury units than in general hospital units. However, all healthcare workers are at risk for injuries, and this risk increases when comfortable body postures cannot be assumed due to space limitations or equipment problems.

(NIOSH, 2009)

Risk factors in the environment may include:

- Slippery or wet surfaces
- Uneven floor surfaces
- Obstruction on floor surfaces
- Physical obstructions (cabinets, commodes, etc.)
- Space too small or difficult to access

- Entrance way width too small
- Poor arrangement of furnishings
- Uneven work surfaces: different heights between caregiver and bed, wheelchair and/or toilet
- Poor bathing area design
- Poor design of chairs

(NIOSH, 2009)

Job tasks that can impact safe handling and lifting:

- Performing repetitive motions
- Reaching and lifting loads far from the body
- Lifting heavy loads (greater than 40 - 50 pounds under ideal conditions)
- Twisting while lifting
- Unexpected changes during the lift (combative patient, falling patient)
- Reaching low or high to begin and complete a lift
- Moving a load over a far distance
- Frequent lifting (more than 12 lifts a shift)
- Unassisted lifting
- Awkward posture of person doing lifting
- Excessive pushing or pulling motions
- Lack of ability to grasp the patient securely (no handles)

- Handling and lifting unstable and asymmetrical weight loads (medical equipment, patients, IV and other tubing connections, injured limbs, wounds)
- Caring for patients that may:
 - Be totally dependent/immobile
 - Have unpredictable behavior or are combative
 - Have an inability or difficulty understanding instructions (language or cognitively based)
 - Have special medical needs such as burns, stroke, musculoskeletal injuries, and other severe medical conditions.

(NIOSH, 2009)

Types of Patient Movement and Lifting

- **Lateral transfers:** moving patients sideways (bed to stretcher)
- **Transfers involving sitting positions:** bed to chair, chair to chair, chair to toilet
- **Repositioning:** moving patients up in bed, side to side in bed, pulling patients up in chairs
- **Floor:** moving patients who have fallen on the floor back into bed

(NIOSH, 2009)

Patient-care slings are fabric devices that can be attached to mechanical lifting equipment to temporarily lift or suspend a patient or body part to perform a patient-handling task. Slings may

be disposable or assigned for individual use by specific patients during their time in the facility. Task-specific slings are designed for ambulation, hygiene, limb support, or to support the patient in a standing, supine, or seated position.

- **Standing slings** assist healthcare workers with toileting or dressing patients, as well as for vertical transfers.
- **Supine slings** assist healthcare workers in performing lateral transfers (transfer in a supine position from bed to stretcher), making occupied beds, bathing patients, repositioning patients in bed, or assisting patients who have fallen on floor.
- **Seated slings** enable healthcare workers to transfer and lift patients in a sitting position, or reposition patients in a chair.
- **Hygiene slings** are made of mesh fabric and can be used for showering patients.

(Nelson, et al. 2009)

Safe Patient Handling Techniques

Patient handling techniques should be used in combination with equipment and technology to increase safe patient lifting, movement, and care.

Remember to:

- Maintain a wide, stable base with your feet.
- Put the bed at the correct height (waist level when providing care; hip level when moving a patient.)
- Try to keep the work directly in front of you to avoid rotating your spine.
- Keep the patient as close to you as possible to minimize reaching or overstretching.

Prepare for the Patient Handling Activity:

- Assess the patient's needs:
 - Patient's ability to provide assistance, bear weight, cooperate and follow instructions, upper and lower extremity strengths, height and weight of patient, special medical conditions and wounds, tubes, contractures, and/or pregnancy
- Decide on the proper equipment
- Know how to safely use the equipment
- Determine if the proper equipment is available for use
- Assess the patient area and environment

- Organize the environment and the equipment to ensure safe completion of the task. Steps include: locking the wheels of the bed or chair, putting the bed or stretcher at the correct height, removing clutter, and making sure equipment is in good working condition.
- Work with other healthcare team members
- Tell the patient what you plan on doing to safely assist them. Show the patient what to do, and then help them move through the activity.

(NIOSH, 2009);

Waters, TR., Nelson, A., Hughes, N., Menzel, N. (2009). *Safe patient handling training for schools of nursing*. Retrieved May 24, 2010 from <http://www.cdc.gov/niosh/docs/2009-127/pdfs/2009-127.pdf>

NIOSH Recommended Maximum Weight Limit

NIOSH researchers recommend that during patient handling tasks, healthcare workers should move and lift ***no more than 35 pounds*** of the patient's weight. This 35 pound limit should assist workers in identifying tasks for which the use of assistive lifting equipment would be appropriate.

The lifting weight limit should be less when tasks are performed under less than ideal circumstances, such as lifting with extended arms, lifting near the floor, lifting when sitting or kneeling, lifting with one hand or in a restricted space, or lifting during a shift lasting longer than eight hours.

(NIOSH, 2009);

Waters, T. (2007). When is it safe to manually lift a patient? *American Journal of Nursing*, 107(8), 53-58

Consequences of Unsafe Patient Handling

Symptoms of musculoskeletal disorders include pain that varies according to stage.

- **Early stage:** pain may disappear after a rest away from work.
- **Intermediate stage:** body part aches and feels weak soon after starting work and lasts until well after finished work
- **Advanced stage:** body part aches and feels weak even at rest; sleep is affected; light tasks are difficult on days off.
- Other signs and symptoms may include tingling or numbness, fatigue, or weakness, redness and swelling, and/or loss of full or normal physical movements.

Benefits of Safe Patient Handling Programs

Benefits for Patients:

- Improved quality of care
- Improved patient safety and comfort
- Improved patient satisfaction
- Reduced risk of falls, being dropped, friction burns, dislocated limbs from improper moving
- Reduced skin tears and bruises

Benefits for Healthcare Workers:

- Reduced risk of injury
- Improved job satisfaction
- Increased morale
- Injured caregivers are less likely to be re-injured
- Pregnant caregivers can work longer
- Staff can work to an older age
- More energy at the end of the work shift
- Less pain and muscle fatigue on a daily basis

Benefits for Healthcare Employers:

- Reduced number and severity of staff injuries
- Improved patient safety and satisfaction
- Reduced workers' compensation medical and indemnity costs
- Reduced lost workdays of employees
- Reduced use of sick leave by employees
- Improved recruitment and retention of healthcare workers
- Fewer resources required to replace injured staff

Collins, J., Nelson, A., Sublet, V. (2006). *Safe lifting and movement of nursing home residents*. Retrieved May 24, 2010 from <http://www.cdc.gov/niosh/docs/2006-117/pdfs/2006-117.pdf>, 5

Estimated Costs of Safe Patient Handling Programs

100-bed facilities can expect to spend \$25,000 to \$30,000 on portable (not ceiling-mounted) mechanical lifts depending on how many residents in the facility require the use of a lift.

Generally one full-body lift should be provided for approximately every eight to ten non-weight bearing residents. One stand-up lift should be provided for approximately every eight to ten partially-weight bearing residents.

The average cost of a mechanical lift can vary from \$3,000 to \$6,000 per lift. The average cost for a ceiling-mounted lift is approximately \$4,000 per room. An effective combination of both floor and ceiling lifts can be accomplished with a \$50,000 to \$60,000 investment per 100 bed facility.

(Collins, J., et al., 6)

Safe Patient Handling Legislation

Hawaii, Illinois, Maryland, Minnesota, New Jersey, New York, Ohio, Rhode Island, Texas, and Washington, have passed legislation supporting or requiring safe patient handling policies, programs, or lift equipment.

Massachusetts, Iowa, Nevada, Michigan, Florida, Vermont, and Missouri have recently reintroduced legislation.

The California State Legislature has passed legislation to protect patients and healthcare workers from painful injuries caused by lifting and moving dependent persons. Five times Governor Schwarzenegger has vetoed it.

State of Massachusetts Cong. House, HB 2026, An Act Related to Safe Patient Handling in Certain Health Facilities [introduced to Massachusetts

House January 12, 2009], Accessed through Mass Nursing Association
<http://www.massnurses.org/legislation-and-politics/mna-bills#2052>, May 25, 2010

Massachusetts Nursing Association: States with Laws Relating to Safe Patient Handling, 2010. <http://www.massnurses.org/health-and-safety/articles/safe-patient-handling/legislation> Accessed May 25, 2010

Safe patient handling legislation is needed:

- To reduce unsafe handling variability across healthcare institutions
- To create standard approaches for collecting, measuring, comparing, and sharing health outcomes associated with patient handling practices
- To provide incentives for participating facilities to purchase equipment

**Let's stop turning
nurses into patients!**

Resources

Massachusetts Nurses Association (www.massnurses.org/health-and-safety/articles/safe-lifting)

NIOSH (www.cdc.gov/niosh/topics/ergonomics)

OSHA (www.osha.gov/SLTC/ergonomics/index.html)

Safe Lifting Portal (www.safeliftingportal.com)

U.S. Department of Veterans Affairs (www.visn8.va.gov/patient-safetycenter/safePtHandling/default.asp)

Work Injured Nurses' Group: WING USA (www.wingusa.org)

State of Texas. Cong. Senate. SB 1525, Safe Patient Handling and Movement Practices, April 20, 2005, <http://www.capitol.state.tx.us/tlodocs/79R/billtext/html/SB01525F.htm> Accessed May 25, 2010

State of Rhode Island, Cong. House of Representatives. H7386, Safe Patient Handling Act of 2006, [introduced to the RI House February 16, 2006], <http://www.rilin.state.ri.us/Billtext/Bill-Text06/HouseText06/H7386Aaa.pdf> Accessed May 25, 2010

State of Maryland, Cong. House of Representatives, HB 1137, An Act Concerning Hospitals - Safe Patient Lifting, April 10, 2007, http://mlis.state.md.us/2007RS/chapters_noln/Ch_57_hb1137T.pdf Accessed May 25, 2010

Massachusetts Nursing Association: States with Laws Relating to Safe Patient Handling, 2010, <http://www.massnurses.org/health-and-safety/articles/safe-patient-handling/legislation> Accessed May 25, 2010