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# Safe Patient Handling Toolkit

- 2011 Edition -





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**Safe Patient Handling Task Force  
Findings and Recommendations:  
Safe Patient Handling Toolkit**

***Let's Stop Turning Nurses Into Patients!***

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## Introduction

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MNA believes we need to provide education and promote safe patient handling equipment to move patients. The healthcare industry has not made this imperative a priority. MNA therefore pursues and supports legislation as we continue our mission to educate nurses with the goal of preventing further musculoskeletal injuries among health care personnel. MNA understands a paradigm shift needs to occur in our work practice to provide a safe work environment. This tool kit provides education about: patient assessment, new work practices, equipment, and is a resource to protect all healthcare workers; as we create a safe work environment.

## Description of the Problem

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- 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 December 28, 2010 from [http://www.cdc.gov/niosh/blog/nsb092208\\_lifting.html](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 December 28, 2010 from [http://www.bls.gov/news.release/archives/osh2\\_12042009.pdf](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.

<http://www.bls.gov/iif/> Accessed August 18, 2011

- 2009 private sector injuries went down while injuries to registered nurses increased 6%.

<http://www.bls.gov/news.release/osh2.nr0.htm>.

Premier, Inc. (2010). Back injury prevention. [http://www.premierinc.com/safety/topics/back\\_injury](http://www.premierinc.com/safety/topics/back_injury)

Accessed August 18, 2011

- 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% suffer from back pain or injuries that require time off from work, while 44% are unable to return to the nursing profession.

Sigardsson, 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](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. Direct costs are multiplied by ten when you consider indirect losses such as replacement of staff, overtime and the cost of low morale putting others at risk of injury.

Premier, Inc. (2010). *Back injury prevention*. Retrieved December, 28 2010 from [http://www.premierinc.com/safety/topics/back\\_injury](http://www.premierinc.com/safety/topics/back_injury)

Back pain is one of the most common and significant musculo-skeletal problems in the world. The economic costs of low back disorders are staggering. In a recent study, the average cost of a workers' compensation claim for a low back disorder was \$8,300, which was more than twice the average cost of \$4,075 for all compensable claims combined.

<http://www.cdc.gov/niosh/docs/96-15/diseas.html#backs>

Musculoskeletal injuries (Gershon et al., 2007) are pervasive in nurses' work environment and RNs report that they are suffering from the physical demands of bedside nursing that result in injuries. Nurses can adopt a team approach to form an ergonomics committee. The purpose of the ergonomics committee includes but is not limited to advocating for patient lift equipment and/or lift teams that will protect the safety of patients and health care workers. (Chhokar et al., 2005; Guthrie, Westphal, Dahlman, Berg, Behnam, & Ferrell, 2004; Morgan & Chow, 2007)

The incorrect assumption that proper body mechanics training alone is effective for preventing work related injuries continues.

## ***Contributing factors***

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- 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. Due to poor staffing, some nurses attempt patient handling tasks alone and increase their risk of injuring their patients and themselves. Maintaining healthcare worker's health and reducing injuries is critical.

(NIOSH, 2009)

- The task of safely lifting patients is becoming more difficult because of the increasing weight of patients due to 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).

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:***

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- 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 and lifting functions that will result in injury:***

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- Performing repetitive motions
- Reaching and lifting loads far from the body
- Lifting heavy loads (greater than 35 pounds (NIOSH guidance) 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 or other severe medical conditions

(NIOSH, 2009);

## **Types of Patient Movement and Lifting**

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- ***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

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

**When using equipment 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.

Body mechanics alone is no substitute for proper equipment.

**DR. William Marras from Ohio University, who is leading the research on Bio mechanics and lifting states that there is “no safe way to manually lift a patient.”**

## **Prepare for the Patient Handling Activity:**

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- 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, including locking the wheels of the bed or chair, putting the bed or stretcher at the correct height, removing clutter, and making sure equip-

ment 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 Dec, 28, 2010 from <http://www.cdc.gov/niosh/docs/2009-127/pdfs/2009-127.pdf>

## **NIOSH Recommended Maximum Weight Limit**

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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**

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The evidence is in: Micro fractures of the disc occur from the very first patient you lift! Over time, there is a cumulative effect on spinal discs, resulting in degenerative damage. This can occur well before pain or other symptoms are experienced.

*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**

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**Description:** A Safe Patient Handling Program consists of: a team approach to the needs assessment of the patient, having the appropriate equipment readily accessible, ongoing education, with policies including, program evaluation and staff participation in training and purchasing of equipment through the Value Analysis team; as well as, administrative support for the allocation of resources.

***Benefits for Patients:***

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- 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
- Enhanced rehabilitation efforts
- Benefits for Healthcare Workers:
- Reduced risk of injury
- Improved job satisfaction
- 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
- Improved quality of life outside of work

***Benefits for Healthcare Employers:***

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- Reduced number and severity of staff injuries
- Improved patient safety and satisfaction
- Reduced workers' compensation medical, legal 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
- Increased staff morale

Collins, J., Nelson, A., Sublet, V. (2006). *Safe lifting and movement of nursing home residents*. Retrieved Dec, 28 2010 from <http://www.cdc.gov/niosh/docs/2006-117/pdfs/2006-117.pdf>, 5

## Estimated Costs of Safe Patient Handling Programs

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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 is needed:

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- To reduce work related injuries
- 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 ensure patient and health care workers' safety

## Safe Patient Handling Legislation

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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 this legislation.

## Summary:

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**Legislation:** Nine states have enacted legislation or adopted regulations to date: IL, MD, MN, NJ, NY, OH, RI, TX, and WA, and in addition Hawaii has passed a resolution of support.

**Proposed Legislation:** Legislation introduced in 2010; (10 states): CA, FL, HI, MA, MI, MN, MO, NY, TX, VT.

State of Massachusetts, HB 1484, SB 1076 *An Act Providing for Safe Patient Handling*. [introduced to Massachusetts House January, 2011], Accessed through Mass Nursing Association <http://www.massnurses.org/legislation-and-politics> Accessed July 26, 2011

Massachusetts Nursing Association: *States with Laws Relating to Safe Patient Handling*. 2010. <http://www.massnurses.org>

org/health-and-safety/articles/safe-patient-handling/legislation  
Accessed May 25, 2010

## **“Ten Tips to Avoid Back Injuries”**

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1. Think before acting-assess the needs of the patient and your needs in this move.
2. Always use lift equipment-obtain prior to the move.
3. Get help if needed-grab a co-worker.
4. Ask the patient for help-even the weakest will want to help.
5. Use proper body mechanics-even with lifting devices; keep your leg base wide and spine straight.
6. Stretch to loosen muscles- tight muscles are more susceptible to injury.
7. Stay close to patient you are lifting-easier to move.
8. Push instead of pull-gives you more power.
9. Use slow steady movements-quick violent movements may hurt you or your patient.
10. Stay in shape-strengthening stomach muscles helps avoid back injuries. Being overweight puts strain on your back.

The Hill-Rom Difference newsletter.  
[http://www.hill-rom.com/usa/hr\\_difference](http://www.hill-rom.com/usa/hr_difference)

**Resources:**

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

NIOSH ([www.cdc.gov/niosh/topics/ergonomics](http://www.cdc.gov/niosh/topics/ergonomics))

OSHA ([www.osha.gov/SLTC/ergonomics/index.html](http://www.osha.gov/SLTC/ergonomics/index.html))

Safe Lifting Portal ([www.safeliftingportal.com](http://www.safeliftingportal.com))

U.S. Department of Veterans Affairs ([www.visn8.va.gov/patientsafetycenter/safePtHandling/default.asp](http://www.visn8.va.gov/patientsafetycenter/safePtHandling/default.asp))

Work Injured Nurses' Group: WING USA ([www.wingusa.org](http://www.wingusa.org))

The Hill-Rom, Difference newsletter. ([www.hill-rom.com/usa/hr\\_difference](http://www.hill-rom.com/usa/hr_difference))

[www.bls.gov](http://www.bls.gov)

[www.osha.gov/SLTC/etools/computerworkstations/positions.html](http://www.osha.gov/SLTC/etools/computerworkstations/positions.html)

**Model Contract Language**

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**Ergonomic/Muscular skeletal Injuries General Information and Resources:**

In an eight hour shift, the cumulative weight that a nurse lifts equals to an average of **1.8 tons per day**. (Tuohy-Main K. (1997). Why manual handling should be eliminated for resident and care giver safety. Geriaction 15, 10-14)

**Contract Language**

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1. This facility shall establish a policy of "No Manual Lifting" over 35 pounds. NIOSH recommends this as a minimum safety limit to protect workers from injury.

2. Direct care nurses shall be actively involved in the selection of various lifting equipment to be purchased, appropriate for the limitations of their work environment and appropriate for the patients they care for in each and every department.
3. Lifting devices shall be immediately available for use when needed and in good working order.
4. If “Lift Teams” are developed, team members will move patients using only safe lifting devices and/or mechanized lifting devices.
5. Computer work stations shall be designed according to ergonomic guidelines and ongoing education will be provided when workstations are shared by different employees

### **Lift Teams:**

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A Lift Team removes healthcare workers from the everyday task of moving patients in a facility. Lifting and moving patients is a **SPECIALIZED SKILL** performed by lift teams who are trained in the current techniques and equipment guided by the registered nurse on her/his assessment of the patient’s needs. Members of the lift team shall be provided with appropriate and assessable equipment.

### ***Safe Working Positions for Computer Work Stations:***

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- **Hands, wrists, and forearms** are straight, in-line and roughly parallel to the floor.
- **Head** is level or bent slightly forward, forward facing, and balanced. Generally it is in-line with the **torso**.
- **Shoulders** are relaxed and **upper arms** hang normally at

the side of the body.

- **Elbows** stay in close to the body and are bent between 90 and 120 degrees.
- **Feet** are fully supported by the floor or a footrest may be used if the desk height is not adjustable.
- **Back** is fully supported with appropriate lumbar support when sitting vertical or leaning back slightly.
- **Thighs** and **hips** are supported by a well-padded seat and generally parallel to the floor.
- **Knees** are about the same height as the hips with the **feet** slightly forward.

[www.osha.gov/SLTC/etools/computerworkstations/positions.html](http://www.osha.gov/SLTC/etools/computerworkstations/positions.html)

Accessed August 18, 2011

# Let's stop turning nurses into patients!

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Special thanks for their assistance with content to the members of the MNA Safe Patient Handling Task Force: **Beth Piknick, RN, Rosemary O'Brien, RN, Tina Russell, RN, Stephanie Stevens, RN** with assistance from **Rachel Slate, RN, BA, MSN**.

Printed MNA September 2011



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