

What the Experts Say

Protecting the Sacrum: Early Mobility and Preventing Pressure Ulcers

Early Mobility

- "Skeletal muscle strength may decline 1% to 1.5% per day of strict bed rest."
- "When mobility is a core component of care, it can enhance key outcomes for patients, improving gas exchange, reducing rates of VAP, shortening the duration of mechanical ventilation, and enhancing long-term functional ability."

Vollman K, *Introduction to progressive mobility. Critical Care Nurse, 2010;30(2):Supplement S3-S4.*

"Patients who received early ICU mobility therapy had a fewer hospital readmissions or death."

Morris P, et al., *Receiving early mobility during an intensive care unit admission is a predictor of improved outcomes in acute respiratory failure. The Am Journal of the Medical Sciences, 2011;30(20):4.*

"Experimental research has demonstrated that after only 5 days of bed rest, healthy individuals developed insulin resistance and microvascular dysfunction..."

Needham D, *Mobilizing patients in the intensive care unit improving neuromuscular weakness and physical function. JAMA, Oct 2008;300(14):1687.*

"The Partnership for Patients estimates that 25% of fall injuries are preventable. The goal set for hospitals is to cut the number of preventable fall injuries in half while maintaining or increasing patients' mobility..."

Prevention of falls with and without injuries overview. Health Research & Educational Trust. U.S. Department of Health & Human Services. Partnership for Patients:7.

Clinical Guidelines Pressure Ulcer Prevention NOVAS/EPUAP Prevention Guidelines

- 1.1 Repositioning should be undertaken to reduce the duration and magnitude of pressure over vulnerable areas of the body.
- 3.2 Avoid subjecting the skin to pressure and shear forces.
- 4.1 Select a posture that is acceptable for the individual and minimizes the pressures and shear exerted on the skin and soft tissues.
- 4.3 Limit the time an individual spends seated in a chair without pressure relief.

National Pressure Ulcer Advisory Panel and European Pressure Ulcer Advisory. Prevention and treatment of pressure ulcers: clinical practice guideline. Washington DC: National Pressure Ulcer Advisory Panel, 2009:16-18.

WOCN Guideline for Prevention and Management of Pressure Ulcers

Prevention (related to the seated patient)

1. Implement measures to reduce the risk of developing pressure ulcers.
3. Schedule regular repositioning and turning for bed and chair bound individuals.
4. Position sitting patients with special attention to the individual's anatomy, postural alignment, distribution of weight, and support of the feet.

6. Utilize support surfaces (on beds and chairs) to redistribute pressure. Pressure redistribution devices should serve as adjuncts and not replacements for repositioning protocols.
7. Individuals at risk should be placed on a pressure redistribution surface.

Wound Ostomy and Continence Nurses Society, Guideline for prevention and management of pressure ulcers, 2010:96.

Friction and Shear

"Pressure ulcers are associated with four underlying causes: pressure, shear, friction, and moisture...Shear refers to the interaction of gravity and friction and contributes to pressure ulcer formation by causing twisting or kinking of blood vessels...Shear occurs when the skeleton moves, but the skin remains fixed to an external surface. It also occurs when pulling a patient from one surface to another...Shear is a predominant cause of pressure ulcers in the sacrococcygeal area."

Arnold M, Pressure ulcer prevention and management: the current evidence for care. AACN Clinical Issues, 2003;14(4):411-428.

Friction is defined as "force generated when 2 surfaces rub together; friction may be produced when skin surfaces rub together or when skin rubs against an incontinence containment device. Friction leads to erosion or denudation of the skin."

Gray M, et al., Moisture vs. pressure: making sense out of perineal wounds. Presented at round table symposium 26 Aug 2006, New York, NY.

Moisture

"Damage from moisture, whether from incontinence, drainage from tubes or wounds or diaphoresis, increases the person's vulnerability to pressure ulcers."

Joan Junkin, MSN, APRN-CNS, CWOCN; independent wound consultant and educator, Lincoln, NE, Jan 13, 2011.

"Pressure redistribution chair cushions can also be provided, and measures to protect skin from incontinence-associated skin breakdown such as moisture barrier ointments and other skin protective products still should be used."

Jankowski I, Tips for protecting critically ill patients from pressure ulcers. Critical Care Nurse, 2010;30(2):Supplement S8.

Prevalence and Cost

According to the National Pressure Ulcer Advisory Panel, hospital prevalence of pressure ulcers is 14%-17%, and incidence is 7%-9%.

Whittington K, Briones R. National prevalence and incidence study: 6-year sequential acute care data. Advances in Skin & Wound Care, 2004;17(9):490-494.

The Institute for Healthcare Improvement (IHI) estimates that 2.5 million people are treated for pressure ulcers in acute-care facilities every year.

Institute for Healthcare Improvement. 5 Million Lives Campaign, How-to Guide: Prevent Pressure Ulcers.

The cost to treat a pressure ulcer can range from \$2,000 to \$70,000 depending on the stage of the ulcer.

Young ZF Evans A, Davis J. J Nurs Admin (Jona). Jul/Aug 2003; 33 (7/8): 380-3.

What the Experts Say

Seated Positioning: Potential for Staff Injury

Clinical Guidelines Staff Injury Risk

Occupational Safety and Health Administration

"Manual lifting and other tasks involving repositioning of residents are associated with an increased risk of pain and injury to caregivers, particularly to the back."

Turning and positioning patients puts staff at risk of musculoskeletal disorders (MSDs). MSDs "include conditions such as low back pain, sciatica, rotator cuff injuries, epicondylitis and carpal tunnel syndrome."

Occupational Safety and Health Administration (OSHA), Guidelines for nursing homes: ergonomics for the prevention of musculoskeletal disorders, 2009:4,5.

ANA Draft Safe Patient Handling and Mobility (SPHM) National Standards

7.1.2 Reduce the physical requirements of high risk tasks through SPHM Technology

Reduce the hazard by modifying the physical demand of the high risk task through the use of SPHM Technology

American Nurses Association (ANA), Draft Safe Patient Handling and Mobility (SPHM) National Standards, 2012: 15.

The Illustrated Guide to Safe Patient Handling and Movement

Reposition in Chair: Wheelchair and Dependency Chair

"Risks for caregiver include lifting heavy loads, awkward postures, and frequency."

The Illustrated Guide to Safe Patient Handling and Movement, available at <http://www.mtpinnacle.com/pdfs/Guide-to-Safe-Patient-Handling.pdf>

Prevalence and Cost

In 2000, the American Nurses Association (ANA) reported that compared to the general workforce, nurses used 30% more sick leave annually due to back pain. 38% of the nursing workforce has been affected by back injury.

American Nurses Association web site, NursingWorld, Jan/Feb 2000.

Among the top 10 occupations for MSDs, nursing aides, orderlies and attendants is number 2. Registered nurses is number 5.

United States Department of Labor, Bureau of Labor Statistics, news release "Nonfatal occupation injuries and illnesses requiring days away from work, 2006," Nov 8, 2007.

In 2009, nurses aides, orderlies and attendants suffered a total of 25,160 MSDs. 59.2% of these were back injuries requiring an average of 5 days off work. 12.2% were shoulder injuries requiring an average of 8 days off work. Registered nurses suffered a total of 10,480 MSDs in 2009.

United States Department of Labor, Bureau of Labor Statistics, Nonfatal occupation injuries and illnesses requiring days away from work, 2009.

Back injury to nurses has a worldwide point prevalence of approximately 17%, an annual acute prevalence of 40 to 50%, and a lifetime chronic prevalence/disability rate of 35 to 80%.

Hignett S. Work-related back pain in nurses. J Adv Nurs 1996 Jun;23(6):1238-46.

More than 1/3 of back injuries among nursing personnel are associated with patient handling and the frequency with which nurses are required to manually move patients.

American Nurses Association web site, NursingWorld, July 2008.

In 1990, the annual cost of back injuries ranged from \$50 billion to \$100 billion in the United States. One low back injury costs \$40,000.

\$20 billion per year is spent annually on workers compensation costs associated with musculoskeletal disorders (MSDs). \$100 billion per year is spent on indirect costs.

United States Department of Labor, Occupational Safety & Health Administration

In a survey, 65% of healthcare workers said that they or a friend have experienced a wrist, shoulder, or back injury from repositioning a seated patient.

Survey conducted by Sage Products LLC, data on file.

"Health care remains one of the nation's most hazardous industries with the highest levels of MSD injuries despite 10 state laws and years of research showing the benefits of safe patient handling."

"Nursing assistants had a higher number of work related musculoskeletal disorders (MSDs) than any other occupation in 2011, according to the U.S. Bureau of Labor Statistics."

"In a 2011 ANA survey, about 80% of registered nurses said they worked with musculoskeletal pain and 62% cited a disabling musculoskeletal injury as one of their top health and safety concerns."

Joint commission: you can't have patient safety without HCW safety. Hospital Employee Health, 2013:4.

Nurse back injuries cost an estimated \$16 billion annually in worker's compensation benefits. Medical treatment, lost work days, light duty, and employee turnover cost an additional \$10 billion.

White E, The elephant in the room: huge rates of nursing and healthcare worker injury, available at <http://www.nhnurses.org/Documents/Announcement-Flyers/Alert.aspx>