



Ergonomics and Safe Patient Handling and Mobility (SPHM) for Nurses

**This course has been awarded
two (2.0) contact hours.**

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Purpose and Objectives

The purpose of this two contact hour course for nurses is to provide an overview of safe patient handling and correct ergonomics to protect nurses from physical injury.

On completion of this course, the nurse will be able to:

1. Explain the importance of safe patient handling and Safe Patient Handling and Mobility (SPHM) Programs
2. Describe evidenced-based standards for safe patient handling and mobility
3. List the 8 steps in the national standards in safe patient handling and mobility
4. Review the ergonomics of safe patient handling and mobility and how nurses can maximize functionality

Introduction

Ergonomics is the scientific study of the relationship between work being performed (occupation/job), the physical environment where the work is performed (workplace), and the tools (equipment) used to help perform the work (Cohen et al; 2010).

Understanding ergonomics is important for nurses as a large portion of patient care activities involve lifting, moving or positioning patients and equipment. This places nurses at high risk for physical injury.

The Goal of Ergonomics

The goal of ergonomics is to protect patients and healthcare providers against injury and maximize safe handling of patients. To achieve this goal, we need to ensure that the biomechanical, physiological, and psychosocial limits of people are not exceeded (Cohen et al; 2010).

When patients are manually moved, the weight-bearing load of the patient's weight often exceeds the biomechanical abilities of the caregiver's upper arm strength. Those tasks that exceed the biomechanical capabilities of workers are called ergonomic hazards, and they often result in musculoskeletal disorders (MSDs).

The goal of ergonomics is to modify the work environment and/or process to eliminate or decrease the impact on the musculoskeletal system.

Musculoskeletal Disorders (MSDs)

Musculoskeletal disorders (MSDs) are a collection of disorders affecting muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs. MSDs usually manifest as low back pain, sciatica, rotator cuff injury and carpal tunnel syndrome.

Tissue injury occurs when a person performs a task in which the load exceeds the tissue tension, leading to an inflammatory response that can cause additional tissue damage and the formation of scar tissue. The majority of injuries and MSDs can be attributed to overexertion related to repeated transfer, repositioning, and ambulation of healthcare recipients (OSHA, 2011 in ANA, 2014b).

Musculoskeletal injuries in nurses have long been recognized as the result of patient handling tasks (ANA, 2014). Of primary importance is back injuries and shoulder strains which can both be severely debilitating. The American Nurses Association's 2011 Health and Safety Survey found that nearly all nurses have worked while suffering from musculoskeletal pain, and 80% said it was a frequent occurrence (ANA, 2011).

Work-related MSDs such as back and shoulder injuries experienced by nursing staff are among the highest of any occupation. In addition to sudden onset injuries, MSDs occur as a result of the cumulative effect of long-term and repeated overexertion over the course of a working lifetime (TJC, 2012).

Data collected in 2007 showed that nursing assistants, orderlies, and attendants experienced a rate of MSDs seven times higher than the national MSD average for all occupations (NIOSH, 2009 in TJC, 2012). Also, the nursing profession is typically listed as one of the top 10 occupations with the highest annual incidence rates for sprain and strain injuries (TJC, 2012).

For decades, nursing focused on body mechanics as the best way to reduce MSDs. Research now shows that better strategies exist for safe patient handling and mobility.

Test Yourself

Musculoskeletal disorders:

- A. Are mainly related to over-exertion
- B. Are lowest among healthcare workers
- C. Usually manifest in healthcare workers as headaches, knee joint problems and muscle weakness

The correct answer is: A. Are mainly related to over-exertion.

Changing the Status Quo

Despite a significant body of evidence that manual patient handling is not safe for patients or healthcare workers, changing the practice has been difficult (TJC, 2012). While MSD injuries have declined in most industries in recent years, rates for nurses in the healthcare industry have not declined during the same period (NIOSH, 2011 in TJC, 2012).

Research on safe patient handling techniques has demonstrated that injuries can be reduced when manual handling is eliminated to the greatest extent possible (TJC, 2012).

Manual Patient Handling: A Definite No-No!

The practice of manual patient handling (lifting, transferring, positioning, and sliding patients without assistive technology) has been the norm in many healthcare facilities for many years (Cohen et al., 2010). In the past, many older healthcare workers in the United States were taught the use of “proper” body mechanics and transfer techniques, which now have been shown to be unsafe (Nelson & Baptiste, 2004 in TJC, 2012). A growing body of evidence questions the effectiveness of these techniques in reducing injuries and promoting safe patient handling.

Manual patient handling puts caregivers at considerable risk for musculoskeletal injury: Researchers have found that more than 80 percent of nurses are injured at some point since, there is no safe way to manually lift or move a patient without mechanical assistance (Matz, 2005 in Cohen et al., 2010). Furthermore, the increasing number of obese and sicker patients who must be moved for various caregiving tasks adds to the amount of stress on caregivers' bodies.

High Injury Rates

According to 2009 data from the Bureau of Labor Statistics (BLS), registered nurses, nursing assistants, orderlies, and licensed practical nurses suffered the highest prevalence and reported the most annual cases of work-related back pain involving days away from work in the healthcare and social assistance sector (CDC, 2014).

Healthcare workers and patients are at risk for injuries related to handling anywhere care is delivered, including hospitals, long term care facilities, outpatient treatment centers, specialty care institutions, and home care.

Injuries to Healthcare Workers

The high injury rate among nurses is thought to be due to several factors:

An aging nursing workforce.

According to the National Sample Survey of Registered Nurses by the Health Resources and Services Administration (2010), nearly 45 percent of RNs were 50 or older in 2008. Renowned nurse researcher Peter Buerhaus, also reports that nurses over the age 50 are the fastest growing group in the profession (Trossman, 2014). Older workers are more likely to have had one or more injuries in the past and are more susceptible to repeat injuries (Trossman, 2014).

Increase in patient acuity and workloads.

Hospitals are caring for higher-acuity patients than they were years ago, and individual nurse workloads are increasing dramatically with new healthcare reform. With a greater emphasis on cost-containment and improved productivity, nurses are more likely to perform tasks without necessary assistance. All these factors mean a greater opportunity exists for injuries to occur, leading to musculoskeletal disorders (MSDs).

Poor body mechanics.

Research has shown that there is a direct correlation between the type and frequency of tasks performed and the number of injuries sustained. Other significant factors in MSDs included the forward bending, twisting and reaching required when helping patients with activities of daily living.

Increase in dependent patients.

The increasing number of morbidly obese, bariatric, and sicker (and thus more dependent) patients who must be moved for various caregiving tasks adds to the amount of stress on caregivers bodies

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(Cohen et al; 2010).

Injuries to Patients

Patients are also at risk of multiple injuries and adverse events related to handling procedures. These include pain and discomfort as well as anxiety connected with being moved. Physical outcomes can include fractures from being dropped during lifting activities, shoulder damage from manual lifting/repositioning, and bruises and skin tears (Nelson & Baptiste, 2004 in TJC, 2012).

Transfer and lifting equipment use can also lead to injuries when patient characteristics (for example, weight, functional capability) are not properly matched to equipment capacities, equipment is not well maintained, or employees have not been trained or are not proficient in its use.

Under-Reporting of Injuries

Although the number of reported injuries is alarming, underreporting of injuries is also a significant issue. Reasons for underreporting are varied but include the difficulty in linking symptoms to specific work-related risk factors and resistance to reporting injuries and/or filing for workers' compensation (Chaff, 2006 in TJC, 2012). MSDs result in significant costs, both personal and financial.

Back pain and injury lead some nurses to consider transferring jobs or even leaving the profession altogether. In addition to the direct costs of injury treatment and workers' compensation payments, there are indirect costs associated with temporary or permanent personnel replacement.

The Impact of Manual Patient Handling on Quality of Care

The goal of a healthcare organization is to initiate the healing process for patients and to provide a comfortable and pleasant environment of care. Healthcare providers know that manual patient handling affects these goals, but only limited hospital data is available that directly connects manual handling to adverse patient events (Hudson, 2010 in Cohen et al., 2010).

Manual patient handling also puts caregivers at considerable risk for musculoskeletal injury, since there is no safe way to manually lift or move a patient without mechanical assistance (Cohen et al; 2010). Caregiver injury has a major impact on staffing, organizational costs associated with lost time and workers compensation (Cohen et al., 2010).

According to Iddid (in Cohen et al., 2010), reports by critically ill patients 18 years and older have noted that the pain experienced during repositioning activities was greater than during tracheal suctioning, tube advancement, and wound dressing changes. There are also many incidences of invasive tubes and lines being dislodged, fractures of fragile bones occurring and patients being dropped during manual patient handling (Hudson, 2010 in Cohen et al., 2010). In addition, skin tears and abrasion are common when patients are pulled up and across beds, and manual patient handling has been related to pain in critically ill patients.

Safe Patient Handling and Mobility (SPHM) Programs

Manual patient handling increases the risk of injury, pain, and negative health outcomes for patients. Manual patient handling, along with the infrequent use of assistive technology, may restrict opportunities for patient movement, mobilization, and weight-bearing activities, which can compromise patients' recuperation, rehabilitation, and overall health (Cohen et al., 2010).

Safe patient handling and mobility programs encourage the use of assistive devices to avoid manual

lifting, and call for the training of staff in safe patient handling methods, assessment of patient's mobility and needs, and the support of administration in developing policies to support the program and purchase the necessary assistive equipment.

Some countries have national policies that ban manual lifting; in the United States, federal legislation is pending, and several states have adopted such legislation. Patient handling and movement programs (PHAMPs) promote the use of such technology and facilitate organizational change by incorporating program elements that foster values essential to an effective culture of safety (Cohen et al., 2010).

The solution to the problems of manual patient handling lies in the development of safe patient handling and movement programs (SPHM).

Benefits of Safe Patient Handling and Mobility (SPHM) Programs

Safe patient handling and mobility (SPHM) programs, if properly implemented, can drastically reduce healthcare worker injuries, regardless of their age, length of employment or shift worked (Nelson, 2006).

SPHM programs can protect patients by reducing their risk of pain, skin tears, bruising, and being dropped. A SPHM program is multi-faceted; it consists of mechanical equipment to lift and reposition patients, a safe-lifting policy, employee training on lift device usage, patient care assessment protocols and algorithms, unit-based peer safety leaders, and administrative support (Nelson, 2006).

Note! Many healthcare organizations have SPHM policies, but have encountered challenges in implementing and sustaining programs (ANA, 2014b).

Universal SPHM standards are needed to protect healthcare workers from injuries and MSDs. Addressing healthcare worker safety through SPHM programs will also improve the safety of patients (ANA, 2014b).

Components of a Safe Patient Handling and Mobility (SPHM) Program

According to TJC report (2012), proven effective techniques include the following:

- Selection of appropriate mechanical patient-handling equipment and devices
- Sufficient training on proper operation of lifting equipment
- Accurate completion of patient mobility assessment and identifying appropriate equipment
- Safe-lifting policies and procedures
- Use of specialized patient lift teams when available

The Joint Commission: Improving Patient and Worker Safety

The Joint Commission (TJC) released a monograph in 2012 entitled: ***“Improving Patient and Worker Safety.”*** This publication highlights the need for safety by using actual case studies to demonstrate settings in which opportunities exist to improve patient safety and worker health and

safety activities (TJC, 2012).

This publication offers strategies to improve workplace conditions and job demands to employee capabilities by dividing these strategies into 3 categories:

1. Leadership / Management

Administrative and managerial support for appropriate lifting equipment, architectural design, and resources and processes is essential for safe patient handling and the prevention of injuries.

Leadership from hospital administrators and patient care managers is essential to ensure safe patient handling, including:

- Creating an environment in which staff members are encouraged to promote patients' independence to manage their own care, which may include establishing an ergonomics committee.
- Continually looking for ways to modify the work environment to ensure safe handling with the help of the unit staff.
- Surveying employees about their concerns and suggestions.
- Adopting a safe patient handling policy.
- Providing frequent education on algorithms, equipment and handling techniques; making safe patient handling outcomes a hospital quality indicator; incorporating compliance to safe handling policies and procedures into performance evaluations; and empowering staff to make unit-based decisions.

Monitoring compliance with transfer and lift procedures, and providing adequate staffing on units will ensure the success of any SPH program.

The Joint Commission: Improving Patient and Worker Safety

Management must demonstrate a commitment to reducing patients handling hazards through establishing a written program and providing continued training of employees in injury prevention and use of assistive devices.

The Joint Commission: Improving Patient and Worker Safety

2. Equipment / engineering / environmental

Well-designed patient care environments that help staff perform ergonomically sound procedures can improve patient handling. When planning construction, architects and administrators should encourage clinicians to participate in the design process. As part of the process, the design team analyzes patient flow from admission to discharge, keeping in mind common injuries, contributing factors and identified solutions. The design team uses simulation exercises to test ideas. The team then helps make decisions about the type and placement of equipment and the architectural elements that promote safe handling. The design of the environment should include wide corridors, large hospital rooms, conveniently located sinks, safety rails in bathrooms, skid-resistant flooring and adequate lighting. Providing alcohol-based hand rubs at room entrances and strategically placed sharps disposal units, will help create a safer work environment.

To prevent MSDs and falls, facilities must provide assistive devices or equipment such as mechanical lift equipment, sliding boards, repositioning devices, shower chairs and walking belts.

The Joint Commission: Improving Patient and Worker Safety

3. Healthcare worker / patient

Healthcare workers must be trained in correct body alignment and in the use and handling of patient safety equipment. All healthcare workers should be encouraged to report unsafe working conditions to management and promptly report MSD signs and symptoms as well as injuries to occupational health. Healthcare workers should follow all procedures for lifting and the use of equipment (Occupational Safety and Health Administration, 2012 in TJC, 2012).

Since 1996, the American Nurses Association and other nursing organizations have worked for public policy to govern ergonomically appropriate working conditions. As a result, Maryland, Minnesota, New Jersey, Texas, Hawaii, Rhode Island, Ohio, New York, Illinois and Washington have passed laws or resolutions supporting various aspects of ergonomic and safe patient handling initiatives.

Test Yourself

To protect against injury, healthcare workers should:

- A. Be trained in SPHM programs.
- B. Avoid moving patients without assistance from another person.
- C. Refuse to accept any assignment that involves the movement of an obese patient.

The correct answer is: A. Be trained in SPHM programs.

Safe Patient Handling: Evidence–Based Practice

Evidence-based activities for safe patient handling include assessing patients and planning care. A thorough patient assessment is the first step to ensure that healthcare providers select techniques and equipment to match patient needs. A full assessment should include a review of the patient's functional abilities, weight-bearing capabilities, upper extremity strength for safe transferring, cooperation and comprehension (TJC, 2012).

The Veterans Administration (VA) recommends assessing the patient and area and then deciding on equipment; knowing how to use that equipment, which must be kept in good working order; planning the lift; and explaining it to the patient and staff, who will work together (U.S. Department of Veteran Affairs, 2014).

An algorithm can help in this process. The VA has developed algorithms for the general patient population and bariatric patients. Part of that assessment involves determining how much patients can do for themselves and encouraging their involvement in the mobility process as much as possible.

To communicate the results of the assessment to all those likely to participate in patient-care tasks, nurses and therapists should develop a care plan that defines the type of high-risk task to be completed, the type of equipment to be used, the number of caregivers required and any special considerations, such as sling type. Hospital policies determine the frequency of the assessment and revision of the plan.

Components of Successful SPHM Programs

In order for a Safe Patient Handling and Mobility Program to be successful, there are certain strategies that can be employed to maximize safety for both the healthcare provider and the patient:

1. Use of Unit Safety Leaders

The use of unit safety leaders is a growing trend in many healthcare facilities in the U.S. today. The role of a unit safety leader is based upon a train-the-trainer concept known as “peer experts.” The peer expert is an informal unit leader with expertise in an area of nursing practice. He or she has the authority and accountability to implement and maintain a patient care program by improving the practice of other personnel. In the case of safe patient lifting, the unit safety leader:

- Leads the evaluation process for appropriate patient care equipment
- Helps determine the appropriate ergonomic program elements
- Supports ergonomic principles and responds to all unit safety concerns
- Educates staff and monitors adherence to the program
- Evaluates the program based upon expected outcomes

(U.S. Department of Veteran Affairs, 2014).

The Unit Safety Leader can also establish “safety huddles” to share information between staff that will keep staff and patients safe (VA, 2014).

Components of Successful SPHM Programs

2. Development of Safe Handling Policies

The ANA recommends developing and adopting a safe patient handling policy, which may include:

- Implementing a no-lift policy
- Discouraging manual lifting
- Mandating the use of appropriate equipment

Such policies can be made specific to a certain unit or implemented facility wide (ANA, 2014B).

Components of Successful SPHM Programs

3. Formation of Lift Teams

Another approach to reducing injuries during lifting and transfers is to use a team of specially trained people who have the equipment to perform high-risk patient movements. The team most often works the day shift and is available for scheduled and unscheduled transfers or lifts. Using a team limits the number of people exposed to the highest-risk patient handling and controls the variables associated with injury.

Requiring mechanization for all high-risk patient handling, except in emergency situations, is one way to control the variables.

Additional advantages to lift teams include:

- Patient care personnel with injuries can return to work and remain working with limited exposure to high-risk activities
- Lift teams save nurses an average of 1.5 hours per shift
- The fact that a hospital has a lift team can help recruit nurses

(ANA, 2014b).

The success of lift teams depends on their training, administrative backing, staff's awareness that the teams are available and ongoing communication about their accomplishments.

Components of Successful SPHM Programs

4. Availability of Technologies and Equipment

The success of many of the safe-lifting practices depends on having the right equipment, selected with the input of the staff members who will be using it (ANA, 2014b).

Test Yourself

Strategies that should be employed to ensure the success of a Safe Patient Handling and Mobility Program include:

- A. Training on manual lifting.
- B. Use of unit safety leaders.
- C. Promotion of correct body mechanics for lifting heavy patients.

The correct answer is: B. Use of unit safety leaders.

Evidence-Based Solutions

Evidence-based solutions that reduce injuries and increase patient and worker safety have been identified (Collins 2004 & Park 2009 in TJC, 2012). While different care settings, caregivers, and patients require targeted methods and application-specific solutions, some general approaches have proven effective. Nelson (20064) has suggested the following three categories of control solutions:

Engineering

Ensuring that carts are available for transporting heavy equipment, floors are dry and non-slip, beds are in working order, and mobile medical equipment is maintained in good working order, are a few of the safety tasks that the engineering staff are responsible for.

Administrative support

It's important to ensure that safety programs are implemented and utilized, the correct equipment is available to staff, and policies and procedures for safe handling and movement of patients are accessible to all staff.

Behavioral training

Healthcare providers should be trained in ergonomics, and understand which policies and procedures to follow to avoid injury. Training in the appropriate selection of mobility aids should also be provided as well as the process to follow in reporting injury.

Benefits of Utilizing Patient Handling and Mobility (PHAM) Equipment

In addition to protecting healthcare providers against physical injury, PHAM equipment has several additional advantages, including:

- Better patient outcomes and improved quality of life for both patients and caregivers.
- Economic benefits from avoiding adverse events related to manual patient handling.
- The potential for hospitals and nursing homes to mobilize patients using assistive devices immediately following a procedure or admission and diagnosis.

Summary of Benefits of a Safe Lifting Program

Table 3-2: Benefits of a Safe Patient-Resident Lifting Program		
Benefits for Patients/Residents	Benefits for Employers	Benefits for Caregivers
Improved quality of care	Reduced number and severity of staff injuries	Reduced risk of injury
Improved patient/resident safety and comfort	Improved patient/resident safety	Improved job satisfaction
Improved patient/resident satisfaction	Reduced workers' compensation medical and indemnity costs	Increased morale
Reduced risk of falls, being dropped, friction, burns, dislocated shoulders	Reduced lost workdays	Injured caregivers are less likely to be reinjured
Reduced skin tears and bruises	Reduced restricted workdays	Pregnant caregivers can work longer
	Reduced overtime and sick leave	Staff can work to an older age
	Improved recruitment and retention of caregivers	More energy at the end of the work shift
	Fewer resources required to replace injured staff	Less pain and muscle fatigue on a daily basis

Source: Collins JW, Nelson A, Sublet V; Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. Safe Lifting and Movement of Nursing Home Residents [Internet]. Cincinnati (OH): NIOSH-Publications Dissemination; 2006 Feb [cited 2011 Oct 11]. Available from: <http://www.cdc.gov/niosh/docs/2006-117/>.

(Table retrieved from OSHA, 2009).

The 8 Evidence-based Standards for Safe Patient Handling

The American Nurses Association (ANA), in collaboration with a national working group and other professional organizations released 8 evidence-based standards to prevent injury. **Safe Patient Handling and Mobility: Interprofessional National Standards** is a 40 page publication that guides the development of practices, policies, regulations, and legislation aimed at protecting the health and safety of healthcare workers and healthcare recipients (ANA, 2014). The 8 standards are:

1. Establishing a culture of safety, which includes ensuring safe levels of staffing, creating a non-punitive environment, and developing a system for communication and collaboration.

2. Implementing and sustaining a safe patient handling and mobility program;
3. Incorporating ergonomic design principles to provide a safe environment of care;
4. Selecting, installing and maintaining safe patient handling technology;
5. Establishing a system for education, training and maintaining competence;
6. Integrating patient-centered assessment, care planning and technology;
7. Including safe patient handling in reasonable accommodations and post-injury return to work policies; and
8. Establishing a comprehensive evaluation system.

At the time of writing, these standards are voluntary, but the ANA is working with regulators and lawmakers in hopes of making the standards required by law.

Test Yourself

Which of the following statements about the evidence-based Standards for Safe Patient Handling is correct?

- A. These standards are legally required by all facilities in the U.S.
- B. These standards include patient assessment, return-to-work policies and an evaluation system.
- C. These standards encourages the reporting and discipline of offenders who do not follow the components of the program.

The correct answer is: B. These standards include patient assessment, return-to-work policies and an evaluation system.

Mobilization and Ambulation

When the human body is immobile, it deteriorates quickly. Early and frequent mobilization of a patient is critical to maintaining or regaining health. Many providers maintain that the earlier a patient is mobilized, the better the patient outcome will be. Conversely, many immobility-related adverse events, some with long-lasting consequences, are linked to late or insufficient mobilization (Cohen et al., 2010).

Safe patient handling and mobility includes the following:

- Moving the limbs of dependent, non-weight bearing patients to preserve joint flexibility; and taking limbs through their full range of motion
- Ambulating patients as early and as often as possible to maintain mobility and bone density

Recent evidence suggests the need for early and frequent ambulation applies even to some of the highest acuity patients, such as ventilator-bound patients in the ICU, who in the past were left immobile (Cohen et al., 2010). Patient ambulation involves a caregiver supporting a patient on one or both sides, with the risk of suddenly having to prevent a fall.

Criteria for Selection of Lifting and Transferring Devices

The 12 criteria for selection include:

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1. The device should be appropriate for the task that is to be accomplished.
2. The device must be safe for both the patient and the caregiver. It must be stable and strong enough to secure and hold the patient. Use of the device should not subject the caregivers to excessive awkward postures or high exertion of forces when gripping or when operating equipment.
3. The device must be comfortable for the patient. It should not produce or intensify pain, contribute to bruising of the skin, or tear the skin.
4. The device should be understood and managed with relative ease.
5. The device must be efficient in the use of time.
6. The need for maintenance should be minimal.
7. The storage requirements should be reasonable.
8. The device must be maneuverable in a confined workspace.
9. The device should be versatile.
10. The device must be able to be kept clean easily and concur with infection control requirements.
11. The device must be adequate in number so that it is accessible.
12. The cost of the device and its maintenance costs should be reasonable.

(Matz, 2013).

Moving Patients Safely: Identifying Needs and Implementing Solutions

The first step in ergonomics is the recognition of the movement that needs to be executed and identification of the mobility aid that is most suitable for use in safely executing the movement. A few of the most common moves will be reviewed.

Transfer from Sitting to Standing Position

Use powered sit-to-stand or standing assist devices when transferring patients who are partially dependent, have some weight-bearing capacity, are cooperative, can sit up on the edge of the bed with or without assistance, and are able to bend hips, knees, and ankles. Transfers from bed to chair (wheel chair, Geri or cardiac chair), or chair to bed, or for bathing and toileting. Can be used for repositioning where space or storage is limited.

Points to Remember:

Look for a device that has a variety of sling sizes, lift height range, battery portability, hand-held control, emergency shut-off, and manual override. Ensure device is rated for the patient's weight. Electric / battery powered lifts are preferred to crank or pump type devices to allow smoother movement for the patient, and less physical exertion by the caregiver (OSHA, 2009).



Image provided courtesy of OSHA, 2009

Patient Lifting

For patient lifting, OSHA (2009) recommends the use of a portable lift device (sling type); can be a universal / hammock sling or a band / leg sling.

It is appropriate to use a lift device when lifting patients who are totally dependent, are partial- or non-weight bearing, are very heavy, or have other physical limitations. Transfers from bed to chair (wheel chair, Geri or cardiac chair), chair or floor to bed, for bathing and toileting, or after a patient fall.



Canstock photo 17754780 Chair Lift

Points to Remember:

More than one caregiver may be needed. Look for a device with a variety of slings, lift-height range, battery portability, hand-held control, emergency shut-off, manual override, boom pressure sensitive switch that can easily move around equipment, and has a support base that goes under beds. Having multiple slings allows one of them to remain in place while the patient is in bed or chair for only a short period, reducing the number of times the caregiver lifts and positions the patient. Portable compact lifts may be useful where space or storage is limited. Ensure device is rated for the patient's weight. Electric / battery powered lifts are preferred to crank or pump type devices to allow a smoother movement for the patient, and less physical exertion by the caregiver (OSHA, 2009).

Test Yourself

A portable lift device is most suited for use in moving a patient who is:

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- A. Obese.
- B. Independent.
- C. Full weight-bearing.

The correct answer is: A. Obese.

Ceiling-mounted patient lifts

These are mounted directly to ceilings or supporting structures attached to walls. Their drawbacks include the cost to retrofit walls and ceilings and the fact that they cannot be moved from room to room.



Image courtesy of CDC (2014). Retrieved from: <http://www.cdc.gov/niosh/topics/safepatient/>

Repositioning in Chair

When repositioning partial- or non-weight-bearing patients who are co-operative, a Geri or Cardiac chair can be used.



Image provided courtesy of OSHA, 2009

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Points to Remember:

More than one caregiver is needed and use of a friction-reducing device is needed if patient cannot assist to reposition self in chair. Ensure use of good body mechanics by caregivers. Wheels on chair add versatility.

Ensure that chair is easy to adjust, move, and steer.

Lock wheels on chair before repositioning. Remove trays, footrests, and seat belts where appropriate.

Ensure device is rated for the patient's weight.

Ambulation

Always use an ambulation assist device when moving patients who are weight-bearing and cooperative but need extra security and assistance when ambulating.



Image provided courtesy of OSHA, 2009

Points to Remember:

Increases patient safety during ambulation and reduces risk of falls. The device supports patients as they walk and push it along during ambulation. Ensure height adjustment is correct for patient before ambulation.

Ensure device is in good working order before use and rated for the patient weight to be lifted. Apply brakes before positioning the patient in or releasing the patient from the device.

Lateral Transfers

Use devices to reduce friction force when transferring a patient, such as a draw sheet or transfer cot with handles to be used in combination with slippery sheets, low friction mattress covers, or slide boards; boards or mats with vinyl coverings and rollers; gurneys with transfer devices; and air-assist lateral sliding aid or flexible mattress inflated by portable air supply.

These devices should always be used when transferring a partial- or non-weight bearing patient between two horizontal surfaces such as a bed to a stretcher or gurney while lying on their back or when repositioning patient in bed.



Image provided courtesy of OSHA, 2009

Points to Remember:

More than one caregiver is needed to perform this type of transfer or repositioning. Additional assistance may be needed depending upon patient status, e.g., for heavier or non-co-operative patients. Some devices may not be suitable for bariatric patients.

When using a draw sheet combination use a good hand-hold by rolling up draw sheets or use other friction-reducing devices with handles such as slippery sheets. Narrower slippery sheets with webbing handles positioned on the long edge of the sheet may be easier to use than wider sheets. When using boards or mats with vinyl coverings and rollers use a gentle push and pull motion to move patient to new surface.

Look for a combination of devices that will increase the patient's comfort and minimize risk of skin trauma. Ensure transfer surfaces are at same level and at a height that allows caregivers to work at waist level to avoid extended reaches and bending of the back. Count down and synchronize the transfer motion between caregivers.

Lateral Transfers Using Convertible Devices

Convertible wheelchair, Geri or cardiac chair to bed; beds that convert to chairs:

These devices should be used for lateral transfer of patients who are partial- or non-weight bearing. These aids eliminate the need to perform lift transfer in and out of wheelchairs. Can also be used to assist patients who are partially weight bearing from a sit-to-stand position. Beds that convert to chairs can aid repositioning patients who are totally dependent, non-weight-bearing, very heavy, or have other physical limitations.



Image provided courtesy of OSHA, 2009

Points to Remember:

More than one caregiver is needed to perform lateral transfer. Additional assistance for lateral transfer may be needed depending on patient's status, e.g., for heavier or non-cooperative patients.

Additional friction-reducing devices may be required to reposition patient. Heavy duty beds are available for bariatric patients. Device should have easy-to-use controls located within easy reach of the caregiver, sufficient foot clearance, and wide range of adjustment. Motorized height adjustable devices are preferred to those adjusted by crank mechanism to minimize physical exertion.

Always ensure device is in good working order before use. Ensure wheels on equipment are locked. Ensure transfer surfaces are at same level and at a height that allows caregivers to work at waist level to avoid extended reaches and bending of the back.

Lateral Transfer in Sitting Position

The use of transfer boards (wood or plastic, and some with a movable seat) are useful aids to employ when moving a patient from one place to another, when in the seated, upright position. Transfer boards are most suitable for use when transferring (sliding) patients who have good sitting balance and are co-operative, from one level surface to another, for example from a bed to wheelchair, wheelchair to car seat or toilet. Can also be used by patients who require limited assistance but need additional safety and support.



Image provided courtesy of OSHA, 2009

Points to Remember:

Movable seats increase patient comfort and reduce incidence of tissue damage during transfer. More than one caregiver is needed to perform lateral transfer. Ensure clothing is present between the patient's skin and the transfer device. The seat may be cushioned with a small towel for comfort. May be uncomfortable for larger patients. Usually used in conjunction with gait belts for safety depending on the patient status. Ensure boards have tapered ends, rounded edges, and appropriate weight capacity. Ensure wheels on bed or chair are locked and transfer surfaces are at same level. Remove lower bedrails from bed and remove arms and footrests from chairs as appropriate.

Test Yourself

The use of transfer boards are best for moving a patient from one place to another when the patient is:

- A. Uncooperative.
- B. Seated in the upright position.
- C. Immobile in the horizontal supine position.

The correct answer is: B. Seated in the upright position.

Transfer from Sitting to Standing Position

Lift cushions and lift chairs are useful devices to use when moving patients from sitting to standing positions. These devices are suitable for patients who are weight-bearing and cooperative, but need assistance when standing and ambulating. Can also be used for independent patients who need an extra boost to stand.



Image provided courtesy of OSHA, 2009

Points to Remember:

Lift cushions use a lever that activates a spring action to assist patients to rise up. Lift cushions may not be appropriate for heavier patients.

Lift chairs are operated via a hand-held control that tilts forward slowly, raising the patient. Patients need to have physical and cognitive capacity to be able to operate lever or controls.

Always ensure device is in good working order before use and is rated for the patient's weight to be lifted.

Transfer/Repositioning

The use of gait belts/transfer belts with handles is appropriate when transferring patients who are partially dependent, have some weight-bearing capacity, and are cooperative. Transfers such as bed to chair, chair to chair, or chair to car; repositioning patients in chairs; and when supporting patients during ambulation.



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Points to Remember:

More than one caregiver may be needed. Belts with padded handles are easier to grip and increase security and control. Always transfer to patient's strongest side. Use good body mechanics and a rocking and pulling motion rather than lifting when using a belt. Belts may not be suitable for ambulation of heavy patients or patients with recent abdominal or back surgery, abdominal aneurysm, etc. Should not be used for lifting patients. Ensure belt is securely fastened and cannot be easily undone by the patient during transfer. Ensure a layer of clothing is between patients' skin and the belt to avoid abrasion. Keep the patient as close as possible to caregiver during transfer. Lower bedrails, remove arms and foot rests from chairs, and other items that may obstruct the transfer.

For use after a fall, always assess the patient for injury prior to movement. If the patient can regain a standing position with minimal assistance, use gait or transfer belts with handles to aid patient. Keep back straight, bend legs, and stay as close to the patient as possible. If the patient cannot stand with minimal assistance, use a powered portable or ceiling-mounted lift device to move him or her.

Repositioning

The judicious use of trapeze bars; hand blocks and push up bars attached to bed frames can make repositioning so much safer for both the patient and the caregiver. These devices should be used when a patient needs to be repositioned and is able to assist the caregiver during the activity. To do so, the patient must have upper body strength and the full use and control of their extremities, be cooperative and follow instructions.

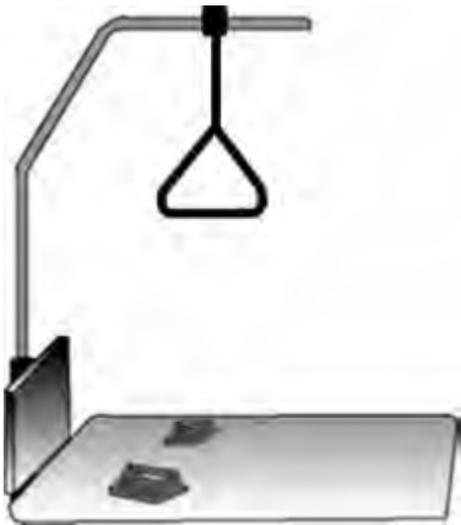


Image provided courtesy of OSHA, 2009

Points to Remember:

Patients use trapeze bar by grasping the bar suspended from an overhead frame to raise themselves up and reposition themselves in a bed. Heavy duty trapeze frames are available for bariatric patients. If a caregiver is assisting, ensure that bed wheels are locked, bedrails are lowered, and bed is adjusted to caregiver's waist height. Blocks also enable patients to raise themselves up and reposition themselves in bed. Bars attached to the bed frame serve the same purpose.

Safety by Design

The use of assistive devices promotes safe patient handling and ensures that care providers avoid performing high-risk manual patient handling tasks. Using the devices reduces a care provider's risk of injury and improves the safety and quality of patient care (VA, 2014).

In recent years, a patient body weight of 35 lbs. was established as the maximum weight that providers can safely lift when lifting and moving patients without the risk of injury (VA, 2014). This limit requires a new approach to lifting and moving patients.

Conclusion

Visible leadership support, program support structures, and co-operation of nurse leaders are required to change entrenched ways of performing tasks. It is important to conduct a patient handling and movement assessment and incorporate its recommendations into the design of a safe patient handling and movement (SPHM) program, to ensure that the patients and staff are protected from physical injury and the organization sees a cost benefit (Cohen et al., 2010).

Regardless of the care setting, effective solutions will require active participation of caregivers and patients to overcome barriers to using new techniques and practices. Transfer and lifting equipment may cause initial anxiety and will require time, co-operation, and training for successful implementation (TJC, 2012).

Attention to the issue of safe patient handling has also helped stimulate research, introduce new interventions, and expand the evidence-base for practice with the promise of improved health and safety for patients and workers. More and more healthcare organizations are moving towards the implementation of safe patient lifting programs to improve employee and patient health and safety. If a SPHM program does not currently exist on your unit, encourage your unit manager and co-workers to move towards the establishment of one, so that you can further protect yourself and your patients!

Resources

Facilities Guidelines Institute - PHAMA White Paper. Available at:
http://www.fgiguilines.org/pdfs/FGI_PHAMA_whitepaper_042810.pdf

International Organization for Standardization - Ergonomics: Manual Handling of People in the Healthcare Sector. Available at: http://www.iso.org/iso/catalogue_detail.htm?csnumber=51310

The Joint Commission - Improving Patient and Worker Safety: Opportunities for Synergy, Collaboration and Innovation. Available at: <http://www.jointcommission.org/assets/1/18/TJC-ImprovingPatientAndWorkerSafety-Monograph.pdf>

National Institute of Occupational Safety and Health: Guidelines on how to protect employees from injury when performing transfers. The document is called "Ergonomics for the Prevention of Musculoskeletal Disorders."

Occupational Safety and Health Administration – Guidelines for Nursing Homes: Ergonomics for the Prevention of MSDs. Available at:
https://www.osha.gov/ergonomics/guidelines/nursinghome/final_nh_guidelines.html

U. S. Department of Veterans Affairs - Safe Patient Handling and Movement Resource Page.

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Available at:

http://www.publichealth.va.gov/employeehealth/clinical_occhealth/safe_patient_handling.asp

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