ABSTRACT

Musculoskeletal injuries are a prevalent and costly occupational health problem, particularly in the healthcare field. The performance of repetitive manual lifting tasks over a substantial period of time increases the risk. In recent years, many facilities have implemented no-lift policies or minimal-lift policies to reduce the risk of injury to patients and nurses associated with manual lifting, transferring, repositioning, or movement of patients. Several states have passed legislation requiring hospitals to establish and implement programs on safe patient handling. The American Nurses Association has launched the Handle with Care campaign, a profession-wide effort to prevent back and other musculoskeletal injuries. A strong body of research has demonstrated that the use of mechanical lifting equipment, as part of a program promoting safe patient handling and movement, can significantly reduce musculoskeletal injuries among healthcare workers while improving the safe delivery of patient care. Key to improving both patient and staff safety when implementing a no-lift or minimal-lift policy is to introduce the policy as part of an overall safe patient handling and movement program that includes administrative support, proper equipment evaluation and availability, staff and patient education, and defined conformance expectations. (Pa Patient Saf Advis 2009 Dec;6[4]:126-31.)

Implementing a Safe Patient Handling and Movement Program in a Rehabilitation Setting

Identifying the Need

Patient handling tasks, such as manual lifting and transfers, are high-risk, high-volume occurrences within healthcare facilities that pose significant risk to both personnel and patients. Performing these tasks increases nurses’ risk for work-related musculoskeletal disorders, which may result in high costs, both financial and emotional. Nursing is among the occupations with the highest risk for musculoskeletal injuries and disorders. It is estimated that 12% of nurses leave the profession annually due to back injuries, and as many as 52% complain of chronic back pain. Many of these injuries and disorders are directly associated with the manual handling and movement of patients and the frequency with which nurses must perform these tasks. Manual handling also increases the potential for patient injuries (e.g., musculoskeletal) from falls or other mishaps. Skin integrity issues related to shear and friction increase when patients require moderate or complete assistance with repositioning and transfers. The Veterans Integrated Service Network 8 Patient Safety Center of Inquiry in Tampa, Florida, funded by the U.S. Department of Veterans Affairs (VA), recommends that a weight limit of 35 lb be used when assessing patient handling tasks. This weight limit is derived from the National Institute for Occupational Safety and Health’s (NIOSH) revised lifting equation algorithms to help healthcare workers know when an assistive device is required. If a patient is dependent and requires the worker to lift more than 35 lb, assistive equipment such as a full mechanical lift is recommended. If a patient is able to partially assist and will not force staff to lift more than 35 lb, they may be able to use a sit-to-stand assistive device, or they may be able to assist manually if equipment is not necessary.

A safe patient handling and movement (SPHM) program uses assistive equipment and devices to help decrease the risk of staff injury and improve the safe delivery of patient care. Assistive equipment and devices, such as lifts, lateral transfer devices, and friction-reducing devices, significantly reduce the risk of musculoskeletal injury to healthcare staff, consequently reducing work-related healthcare costs. Low nurse recruitment and retention rates remain a serious problem, and nursing shortages are only exacerbated by occupational injuries and residual disabilities. A SPHM program communicates organizational concern for staff safety, promotes retention, provides an added incentive for recruitment, and may reduce costs related to overtime and agency use for replacing injured workers.

A SPHM program affords a safer progression through the patient’s care and greater preservation of the patient’s dignity. SPHM equipment and practices enhance a patient’s ability to assist in movement and allow the patient to progress as confidence, strength, and endurance improve. These improvements, in

Editor’s Note

The topic of patient transfers and the benefit of equipment-assisted transfers is closely tied to preventing patient falls and their associated injuries (as well as injuries to healthcare workers). Falls account for a large number of the reports submitted to the Pennsylvania Patient Safety Authority as one of its nine event type classifications. From June 2004 through September 2009, the Authority received 180,458 reports of patient falls, of which 6,908 were reported as Serious Events (harm to the patient). Nearly 5,850 of the total fall reports were associated with problems with patient transfers. The Pennsylvania Patient Safety Authority is pleased to communicate information about the successful implementation of a program to decrease injuries with transfers.
Development and Implementation

The John Heinz Institute of Rehabilitation Medicine is one of the foremost providers of rehabilitation in the United States. Under the supervision of board-certified physiatrists, a team of highly qualified professionals provides a broad range of specialized services and therapies for inpatients, treating both orthopedic and neurological conditions, with specialized programs in the areas of brain injury, injured worker recovery, and pediatrics. The organization’s 71-bed inpatient rehabilitation facility, which has an 11-day average length of stay, has served the northeast United States for more than 25 years as part of the Allied Services organization. John Heinz provides comprehensive rehabilitation care, including services in audiology; clinical and forensic neuropsychology; physical, occupational, speech, and recreational therapies; rehabilitation nursing; respiratory therapy; social services; psychology; and rehabilitation technology. Patients admitted to the John Heinz Institute may require various levels of assistance with tasks and mobility, with some needing minimal assistance and others being completely dependent.

In March 2007, John Heinz’s Susan Schwartz, CRRN, director of nursing, and Erin Pilch, CRRN, clinical nurse manager, attended the Seventh Annual Safe Patient Handling and Movement Conference in Lake Buena Vista, Florida, and immediately recognized the benefits of a SPHM program as a proactive safety improvement within the hospital for both patients and staff (see “Benefits of a Safe Patient Handling and Movement Program”). At the conference, they had the opportunity to observe available safe handling equipment and to speak with leaders in the field of SPHM. Upon their return, they presented their findings and ideas for a SPHM program within the hospital to administration, receiving full support. An interdisciplinary committee consisting of certified rehabilitation registered nurses, physical and occupational therapists, the patient safety officer, the infection control nurse, and the risk manager was convened to review information, statistics, and products. Despite the issuance of a white paper by the American Physical Therapy Association, Association of Rehabilitation Nurses, and Veterans Health Administration supporting the use of safe handling equipment, the physical and occupational therapy staff had reservations regarding the implementation of a minimal-lift program and the incorporation of lifts and transfer devices within the scope of the patient’s therapy. The therapists expressed concern that deviation from their current practice could potentiate patients’ dependence on equipment and worsen patient outcomes. They did, however, concede the benefit of using the equipment on the nursing units to reduce the risk of injury to nursing personnel and to conserve patient energy in order to maximize therapy participation. The nursing department staff openly supported the move toward developing a SPHM program within the hospital.

The intended patient population for the SPHM program was identified as patients who are assessed as requiring more than moderate assistance from two staff members, or who are dependent for transfer and movement tasks. These patients were felt to be consistent with those patients who would require the nurse to lift more than the NIOSH-recommended 35 lb. The initial committee became the source of a subcommittee, consisting primarily of nursing personnel, which met on a regular basis to outline a mission statement (see “John Heinz Institute of Rehabilitation Medicine Safe Patient Handling and Movement Mission Statement”), actively seek out and evaluate equipment, develop policies and competencies, and identify potential risks and benefits. The infection control nurse was consulted during the evaluation and selection of equipment in order to identify and implement the appropriate infection control measures for the selected equipment. To further mitigate the risk of cross-contamination, the subcommittee identified the need to purchase enough slings for the lift equipment that each sling could be dedicated to a specific patient for the length of the patient’s stay or until the patient’s endurance and transfer status improved. A search of the ECRI Institute Web site was conducted by both the patient safety officer and clinical engineering staff. This search identified no alerts related to malfunctions of or injuries from the evaluated or purchased equipment. A search of Joint Commission Sentinel Event Alerts likewise identified no sentinel events related to the use of patient lifting

Benefits of a Safe Patient Handling and Movement Program

- The potential for patient injury (e.g., shoulder injuries, skin tears) as a consequence of manual handling mishaps (e.g., patient falls) is reduced when assistive equipment and devices are used.
- Patients are provided with a safer means to progress through their care, promoting patient autonomy, conserving energy, and maximizing therapy tolerance.
- A reduction occurs in the rates of back injury, which is the second leading occupational injury in the United States (back pain is the most common reason for filing Workers’ Compensation claims).
- Organizational concern about staff safety is communicated to nursing staff, promoting retention and providing an added incentive for recruitment. (Recruiting and retaining nurses is an ongoing problem.)
and transfer devices. (A more recent search of the ECRI Institute Web site revealed that ECRI Institute published a paper evaluating ceiling-mounted patient lifts in April 2009 and presented a Web conference titled “Implementing a Patient Lift Program That Won’t Hurt Your Staff or Kill Your Budget” in May 2009. This further reinforced for us that SPHM is at the forefront of today’s healthcare issues.)

In May 2007, the hospital sponsored a safe handling equipment fair, with demonstrations from several equipment vendors. Frontline nursing staff, clinical departments, and representatives from other divisions within the Allied Services organization were invited to attend. It was imperative to get feedback from frontline staff, since the equipment was intended for use primarily within their daily practice. Several members of the interdisciplinary SPHM committee also visited the local VA Medical Center to evaluate the equipment in use at that facility. Following the fair, some equipment was identified as being appropriate for the John Heinz patient population, and arrangements were made with the vendors for equipment trials.

The hospital’s 71 beds are divided into 3 nursing units. No formal ergonomic assessment was completed to identify high-risk units because the acuity level fluctuates from day to day and any of the units could be considered high risk at any given time. Before any equipment trials, the vendor trained frontline staff in the safe and appropriate use of each item. Equipment trials commenced in May 2007, with frontline nursing staff providing written feedback and evaluations on each piece of equipment by means of an equipment evaluation form developed by the SPHM committee for this purpose. The SPHM subcommittee continued to meet to develop policies and review the evaluations of the equipment. Equipment trials and rentals continued from July 2007 to March 2008, with input from the clinical engineering department. After evaluating a minimum of three different versions of each piece of equipment, the hospital purchased its first full mechanical lift with attendant supplies. For the hospital’s more mobile rehabilitation population, the subcommittee determined that one full mechanical lift and one sit-to-stand lift for each 21- to 23-patient nursing unit would meet the hospital’s needs. In total, three full mechanical lifts and three sit-to-stand lifts were purchased. To ensure the availability of an adequate number of slings and belts for individual patient dedication, the hospital also purchased 12 slings in various sizes for the full mechanical lifts, and 15 belts in various sizes for the sit-to-stand lifts. The subcommittee decided that having one lateral transfer sheet in each patient room would make these items easily available and facilitate staff compliance with their use. Additionally, lateral transfer sheets were placed in each of the therapy gyms, and a supine lift sling was purchased and stored with the backboard near the cardiac crash cart to facilitate safety in emergency situations. A safe patient handling equipment log was developed to enable nursing management to track the use and location of all slings and to prevent their loss (see Figure). The purchases were prepared and presented to hospital administration.

By July 2008, all initially requested equipment had been purchased and received. In all equipment purchases, the needs of bariatric patients were considered. Two of the full mechanical lifts purchased accommodate up to 500 lb, and the third has a capacity of 700 lb. All the sit-to-stand lifts accommodate patients up to 500 lb. The lateral transfer sheets purchased were bariatric size, with a weight capacity of 700 lb. Historically, the hospital has seen few patient admissions beyond this weight range, and it was confirmed with the vendors that additional bariatric equipment could be rented on an as-needed basis. Equipment storage was an issue for our hospital, as it is for many healthcare providers. Equipment that is not readily available to staff reduces the likelihood of compliance in using it. The facility determined that storing lifts on each nursing unit would facilitate their use. To ensure that the additional equipment in the patient care area would not become an impediment to patient flow in the event of an emergency, an addition was made to the nursing assignment sheet to specifically assign a nursing staff member on each unit and each shift to clear the hallways of equipment if such a situation were to arise. The clinical engineering department remained involved throughout the equipment selection process and remains available to address damaged or malfunctioning equipment.

Policies and staff competencies were developed for the overall SPHM program, as well as for each individual piece of equipment that had been purchased, and staff training was initiated and evaluated. A nursing department policy to direct the overall minimal-lift process was developed after review of current literature and similar policies in use at other healthcare facilities with successful SPHM programs. The policy was presented to and approved by administration via the patient safety committee and medical executive committee. The policy defines patient-handling-related terms, provides a process for the assessment of patients who may require patient handling equipment, and outlines the...
responsibilities of staff and nursing supervisors and managers in relation to the program. Policies were also developed for the use and care of each individual piece of equipment based on the manufacturer’s instructions, including cleaning between uses with a disinfectant approved by the U.S. Environmental Protection Agency. Individual competencies for each piece of equipment were developed by members of the SPHM committee and used throughout the training process. The competencies were designed to follow the manufacturer’s instructions for use and required a return demonstration by each individual staff member before the equipment could be put into use. As part of each competency, staff signed a statement indicating that they understand that the safe patient handling and minimal-lift policy is important for the safety of the patients, their own safety, and the safety of their coworkers and that they agree to adhere to the policy. Our hospital promotes a nonpunitive culture. However, this does not mean that staff who repeatedly or intentionally violate policy and procedure will not be held accountable. Staff members found to be noncompliant with the minimal-lift policy are reeducated about the SPHM program and expectations for compliance. The circumstances surrounding the event are also reviewed to identify any potential system factors that may have contributed to the failure to follow policy.

Since the SPHM program was formally launched (September 2008), feedback from both patients and staff has been overwhelmingly positive.

**Potential Barriers to Program Implementation**

The most significant potential barriers to the implementation of any SPHM program are financial constraints. The cost for the initial implementation of the program in our facility was approximately $45,000. However, the hospital expects to recoup this cost within three years of full implementation of the program because of a reduction in Workers’ Compensation expenses. To further mitigate the financial impact, the equipment was identified for purchase in a prioritized manner, which allowed the initial outlay to be spread out over a period of time. It is also important to consider that the quantity of equipment purchased must be sufficient to ensure that it is available when needed. Insufficient equipment quantities resulting in wait times discourages staff compliance with equipment use policies.

Reluctance to accept change in longstanding processes is another barrier that may be anticipated, as was our experience with the physical and occupational therapy departments. While these staff members are still reluctant to fully adopt the SPHM program in the physical and occupational therapy milieu, in the time since the program was fully implemented in the nursing department, they have exhibited a growing acceptance of the equipment and

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**Figure. Log Sheet Example.**

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have even requested to use the lifts to safely recover patients in a fall or assisted-fall situation. Some staff may feel that it is more efficient in terms of time to simply perform manual transfers, as they have always done. Education regarding the risks of manual handling and the benefits of a SPHM program to workers empowers staff and helps them become invested in the program. Involvement of frontline staff in evaluations and equipment selection is crucial to successful compliance with the program. At John Heinz, frontline nursing staff were provided demonstrations and education about the use of all equipment selected for trial and purchase. The selected equipment vendors trained designated nursing staff to be trainers for other staff, providing them with responsibility and further investment in the program. Expected benefits were emphasized, including those associated with the reduction of physical workload in patient movement tasks, those from the reduction of work-related injuries, and benefits for patients. As the program progressed, we found that our staff were not only becoming excited about the program, but also becoming proactive. Based on the unique character and diverse requirements of rehabilitation patients, staff involved in the equipment trials began to identify and assess specialized needs among our patient population. This feedback was communicated to the vendors, who, based on suggestions and demonstrations from our staff, were able to develop and manufacture additional adaptations to the belts and slings, providing further safety and security for patients with specific deficits.

Communication

Effective communication about transfer status and equipment needs of individual patients is imperative between members of the rehabilitation team and between workers from one shift to the next. The subcommittee developed new processes and revised existing ones to address this need (see “Communicating Safe Patient Handling and Movement Needs”). Patients’ transfer status had traditionally been assessed at the time of admission, with input from the nursing and occupational therapy departments. To better define each patient’s assessed transfer status, a revision was made to the Interdisciplinary Admission Assessment to allow documentation of the transfer status along with cues to identify patients who should be considered for patient handling equipment. Upon identification of the patient’s equipment needs, laminated photographs of patients-specific equipment items are placed in the nursing Kardex for communication between shifts. A revision was also made to the nursing shift summary form to allow documentation of the equipment required by the patient, which may potentially vary from shift to shift based on the patient’s fatigue level. An addition was made to the daily status sheet, which is completed by nursing staff and faxed to other clinical departments, to alert them to the patient’s transfer status and the equipment currently in use for safe handling. Good communication results in consistency and continuity of care, prevents injury, and promotes positive patient progress.

Outcomes

The SPHM subcommittee continues to explore options for obtaining meaningful measurement data for our SPHM program. Unfortunately, historical data related to employee injury before the development of the SPHM program was not gathered in a way that facilitates the identification of patient-handling-related injuries. To evaluate the initial effectiveness of the program, the number and cost of nursing injuries suspected to be related to patient handling tasks before the implementation of the program were compared to the values measured following the initiation of the program. The initial figures are encouraging. From July 1, 2006, to June 30, 2007, 16 nursing injuries attributable to patient handling tasks occurred, at a total organizational cost of $35,747.* From July 1, 2007, to June 30, 2008, a time when equipment was in use (either as part of a trial or after having been purchased), we saw a decrease to four nursing injuries attributable to patient handling tasks. One additional injury occurred during this period but was not reported until several months later. Including this injury, the cost for this period decreased to $13,708.

Moving forward, we are working to standardize the data gathered on employee injuries. Additional information has been included on the employee accident reporting forms to identify events related to patient handling tasks and allow evaluation of any injury occurrence to monitor whether the staff member was complying with the minimal-lift policy and using the appropriate equipment at the time of the event. The risk management department now generates monthly reports of employee injury broken out by department and type, including cost, days missed, and days on light duty, that we feel will allow us to gather more

* These costs reflect Workers’ Compensation claims. Costs related to patient injuries were not included in the analysis, but it should be noted that this could further increase the cost-effectiveness of the SPHM program, additionally justifying the financial outlay for the initial equipment.
Additional Resources


meaningful data. We also continue to monitor all patient event reports for any events related to patient handling tasks, and we have not noted any increase. It is anticipated that these numbers will continue to decline moving forward with full implementation of the program.

Conclusion

At the John Heinz Institute, the development of our SPHM program is part of our comprehensive team-oriented approach and commitment to quality-driven patient care, as evidenced by the implementation of proactive safety initiatives that reduce risk to patients and staff, maximize resources, and reduce costs while improving quality of care. In the short time that the program has been implemented at our facility, we have already seen a decrease in employee injury rates and related costs, and we have received positive feedback from both patients and staff. Staff openness and administrative support are key to a successful SPHM program, but it is just as important to maintain staff interest and program momentum. Our SPHM committee continues to meet periodically. Posters were designed and placed in prominent locations to alert staff, patients, and visitors to the hospital’s SPHM program and minimal-lift zones. An information brochure was designed for distribution to patients. Patients and families are encouraged to ask questions and learn about the program and the benefits it provides. Lapel pins have been ordered to identify the “go to” person on each unit and each shift. As a result, these staff will be further invested in the program, and other staff members will have a resource person to go to with questions or problems. The SPHM committee is also presently exploring the prospects for an incentive program to encourage continued staff compliance with the minimal-lift policy and procedure.

Motivated by the American Nurses Association’s Handle with Care campaign implemented in 2003, 9 states have already enacted safe handling legislation, and 10 more states have introduced legislation so far in 2009 related to the restriction or elimination of manual patient lifting.5 If Pennsylvania introduces legislation, we feel we will have favorably positioned our facility for any regulations that may be forthcoming. Regardless, we will have provided both our patients and our nursing staff with a safer and more ergonomically friendly process.

Notes


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