

ERGONOMICS DEMONSTRATION PROJECT

ST. JOSEPH HOSPITAL BELLINGHAM, WA

March, 2003



**ST. JOSEPH HOSPITAL, BELLINGHAM, WA
EMPLOYEE INJURY PREVENTION PROJECT
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St. Joseph Hospital is a not-for-profit acute care facility in Bellingham, WA, located in the northwest corner of Washington State. The hospital employs approximately 1800 individuals and is licensed for 253 beds. Current census levels average about 180 in-patients per day and 136 emergency room visits per day. Despite financial restructuring in 2001, the hospital remains dedicated to improving the health of everyone entering their doors, including the staff. In October 2002, a new 27-bed unit (3rd Medical unit) opened, the first patient-care space to be completed as part of the hospital's expansion. In addition to improving the comfort of the patients and family, the unit has also been designed to reduce the risk of injury for staff during patient handling through the installation of ceiling lifts and the introduction of patient transfer equipment.

As part of the performance measurement with the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) Environment of Care standards, the Occupational Health office at St. Joseph Hospital had noticed the injury rate increasing and out of line with comparable industry rates. In addition, the workers compensation claims and associated medical costs were increasing. Data collected indicated that back injuries were the predominate type of injury occurring in the hospital. The majority of injuries resulted from patient lifting. They included injuries of the back and other musculoskeletal injuries involving the legs, shoulders, and upper extremities. The most frequent areas of the hospital where the injuries occurred (Medical Care Unit 3rd floor and Emergency Department) also meant the staff members most likely to be injured are registered nurses. Between November 1998 and November 2000 fifty worker's compensation claims related to patient lifting were filed, with an average cost per claim of \$2234. The total costs of these injuries over the two-year period were \$111,700 in overall direct costs. In addition, there were indirect costs such as the replacement of staff, training and supervisor time.

The hospital administration determined that employee injuries would continue to rise leading to increased costs associated with:

- Time loss
- Modified duty
- Claims cost
- Overtime in affected departments
- Delays and waste from increased workload of uninjured staff when covering for injured staff
- Inadequate/inappropriate equipment purchases

The Quality Improvement Process

A quality improvement project was initiated in April 2002 to deal with the problem of an escalating rate of low back injuries and increases in costs from those injuries. A Quality Improvement (QI) team was identified to work on a resolution to this problem. Individuals on the team represented a cross section of the effected workforce and included hourly staff as well as management. The team's approach to problem-solving was a participatory process, receiving feedback and comments from outside parties throughout the project.

Over the course of several months the work of the team involved the collection of data on rates and location of injuries, the development, distribution and analysis of a survey tool collecting data on low back injuries at work and the process of reporting the injury, research on model programs in other hospitals with low injury rates, and the investigation of relevant patient lifting equipment. Staff was very forthcoming with opinions and comments in regards to work-related injuries.

As part of the investigation into the feasibility of patient lifting equipment, a vendor fair was organized and patient lift equipment was demonstrated for hospital staff. An evaluation was distributed to the staff to determine their satisfaction and perceived use of the equipment. From the vendor fair, one piece of equipment received widespread praise; however, its usefulness in manipulating in small rooms and the issue of storage proved to be an issue. Members of the QI team also visited two other facilities to observe different methods that had proved to be successful elsewhere. Members visited a rehab hospital in Colorado, where ceiling lifts were installed in patient rooms and a Seattle hospital utilizing a patient lift-team approach.

The QI team came forward with two recommendations. The first recommendation was to establish a patient lift-team. This approach involved training a select group of employees to perform patient lifting. It was determined that this approach had several advantages:

- The ability to hand select individuals who were better suited to lifting
- Better control and enforcement of lifting policies
- A recruiting tool for nursing staff

The approach was not feasible for the hospital since FTE staff levels were being closely scrutinized and hiring additional staff, necessary for such an approach, was not a possibility. In addition, this approach would not have reduced exposures below the Washington State Ergonomics Rule hazard thresholds for some lifts. Transfer teams who use lift-assist equipment and engage in manual lifting only to help partially weight-bearing patients was determined to be a better approach under the rule.

The second recommendation of the QI team was to purchase lift equipment and make it available to every nursing floor. This recommendation, however, was made with reluctance due to past experience with patient lift equipment. A few years prior a similar project was initiated and patient lifts were purchased for two nursing units. Although there was acceptance by management in these areas, the equipment was rarely used. The QI team presented the recommendation to purchase lift equipment to the patient care directors. Following that, the project stalled until an upcoming JCAHO survey prompted action. Being a major focus of the hospital's performance improvement project, and one of which is required by the JCAHO, the employee injury project was revitalized. The finalized equipment recommendation by the QI team was ceiling lifts, to be placed in rooms in a new unit under construction, and additional ceiling lifts to be placed in all other in-patient nursing units. An expected outcome of the ceiling lifts versus the floor lifts is the increase in use since the lifts are located in each room rather than in a common area located outside the room.

During the time that the recommendations were being formulated, the Physical Therapy staff was introduced to the Hover Matt, a lateral transfer device. Although it had been brought in a few years earlier prior to this project, the response was more favorable this time. The Matt was piloted for one month in the Medical Care Unit and by the Imaging transporters. Evaluations from staff determined it to be an overwhelming success.

The Implementation

A. CEILING LIFTS

In November 2002 eight private rooms in a newly constructed 27-bed unit (3rd Medical unit) had patient lift systems. Three lifts are manufactured by Waverlyglen of Canada and the remainder are manufactured by Guldmann of Denmark. The cost of equipment and installation is approximately \$5000 per unit if installed during construction. The ceiling lifts can be used to move patients from bed to chair, floor to bed, boosts up in bed, etc. By May 2003, two rooms in all other in-patient units will have ceiling lifts installed. Completion of the installation has been delayed due to the delays in delivery of the new equipment. The QI team's ambitious plan is to install ceiling lifts in all 72 units of the hospital.



The ceiling lifts provide several advantages:

- The lifts do not require additional storage space which can be difficult to find in many facilities
- The lifts are readily and conveniently located in the rooms. Staff do not have to search for equipment
- The lifts can be comfortable for patients, possibly reducing the anxiety of patients being moved

Since the ceiling lifts are still relatively new, staff needs time to feel comfortable with the equipment and develop a habit with the equipment. In addition, staff must become accustomed to separating the slings from the laundry since they must be washed separately. Several slings have been lost because of this.

B. Hover Matt ®

St. Joseph Hospital currently has 23 Hover Matts in use in 8 units (Emergency Department, transporting in Imaging, Intensive Care Unit, Medical Care Unit, Medical Floor, Surgical Floor, Cardiovascular Unit, and Post Anesthesiology Care Unit). The mats are made by Hover Tech and are used for bed-to-bed transfers. The Hover Matt, when inflated by a pump, raises the patient off the bed surface (which eliminates the need to lift the patient off the bed) and the slippery material reduces the pull forces required to move the patient from one bed to another. The cost of the cushion is approximately \$1800 and the pump, which can be used with more than one cushion, costs \$800.

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The Hover Matt in use



The portable pump attached to a bed

4. Summary

All the staff where ceiling lifts and/or Hover Matts are in use have been trained in their use and written procedures for their use have been implemented. Informal spot checks with staff are being done by the QI team to monitor the staff's comfort level and experience with using the lifts, as well as listening to suggestions they may have for improvements. Informal feedback has been extremely favorable for the new equipment. Each hospital unit is responsible for their own equipment. Upkeep of the equipment, under the responsibility of the maintenance department, is unknown since the equipment is so new. A cost-benefit analysis based on actual experience is not possible as yet since the introduction of the equipment has been so recent; however, the expectation is to see a reduction the number of injuries, workers' compensation claims and claims cost.