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Review Article

House-Wide Safe Patient Handling Program to Mobilize Patients Early and Often: One Organization's Journey

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Abstract

Mobilizing patients early and often has been shown to improve patient outcomes. Becoming a facility that achieves this goal consistently house wide is difficult. This paper aims to share our facilities journey toward this goal and to share educational content and policies that enabled us to overcome many of our barriers. Ultimately, we have achieved excellent results in staff safety and early mobilization.

Keywords: Safe patient handling, Lifts, slings, Caregiver injury, falls, Creative training, Staff training

Introduction

Problem Description

The clinical community has recognized that immobility is common in hospital facilities and leads to poorer functional capacity, decreased ability to perform activities of daily living (ADL), and may cause debilitating problems. Complications such as loss of muscle strength and endurance, contractures and soft tissue changes, disuse osteoporosis, degenerative joint disease, increased heart rate, decreased cardiac reserve, orthostatic hypotension, and venous thromboembolism [1] are costly to treat and may have been prevented by early mobilization.

Available Knowledge

Several leading nursing societies have published recommendations aimed at increasing mobility for hospitalized patients. The American Nurses Association (ANA) Safe Patient Handing and Mobility National Standards were put into place to encourage staff to mobilize patients, while keeping staff safe from injury, and reducing patient falls. The American Association for Critical Care Nurses (AACN) [2] has adopted the ABCDE care bundle, Awakening and Breathing Coordination, Delirium Monitoring and Management, and Early Mobility, which later included an "F" for Family involvement. The Society of Critical Care Medicine [3] has a very similar ABCDEF bundle they have adopted: (A: Assess, prevent and Manage Pain, Both Awakening and Breathing Trials, Delirium assessment, prevention and management, and Early mobility and Exercise, Family Engagement and Empowerment). These efforts aim to coordinate ICU care and achieve better clinical outcomes for critically ill patients.

Physician groups have also adopted early mobility as a key component for better outcomes. Enhanced Recovery After Surgery (ERAS) programs [4], or Enhanced Recovery Programs (ERPs) [5], and "fast track" programs aim to improve both clinical and financial outcomes of surgical patients using multimodal, multidisciplinary approaches to the care and include mobilization as a key component. The ERAS program began in colorectal surgery, and has since been adopted in almost all major surgical specialties demonstrating improved outcomes. A recent report of an ERP in bowel surgery that focused on early ambulation and early alimentation demonstrated a reduction in complication rates, which included gastrointestinal complications, pulmonary complications, and readmissions in a study of 5000 adult patients undergoing elective small and large bowel operations [5]. To note, many of these perioperative programs also focus on pre-hospitalization interventions that also include physical activity [6].

Although mobility is recognized as a critical factor of care for the hospitalized patient [6], becoming a facility that provides consistent house wide mobilization may be

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difficult to achieve. In the ICU environment, Jolley 2017 reported that the prevalence of mobilization was 32% in respiratory failure patients hospitalized in 42 US ICU's who were part of the Acute Respiratory Distress Syndrome Network hospitals. Bakhru (2015) reported that only 45% of US ICU's practiced mobilization at all, and only 30% of ICU's had written mobilization protocols in a survey of 500 geographically dispersed ICU's in the United States. Of ICU's that did mobilize patients, mechanically ventilated patients were only mobilized in 10% of US hospitals.

Successful mobilization practices have been shown to require cultural changes by staff team members. Barriers to mobilization practices include lack of equipment or training, inadequate staffing, concerns about patient and/or caregiver safety, competing priorities, need for further planning, hemodynamic instability, inappropriate analgesia, wired medical monitoring equipment, and heavy workloads [7-9].

Rationale

Like most facilities in 2008, our facility did not mobilize patients early and often. Although our leadership invested in lift equipment, our staff did not use the equipment as routine practice. Additionally, staff were not familiar with what slings to use for specific patients, and/or specific mobilization efforts, and staff access to appropriate slings was challenging. Our staffing was adequate but, since staff did not receive comprehensive training with the equipment or assessment of patient mobility, our safe patient handling policy was not routinely followed.

Specific Aims

Our focused effort was to advance mobility house wide in a 325 bed Level 2 Trauma Center in La Crosse, Wisconsin that serves eastern Iowa and Minnesota. This effort began in 2008 and focused on mobilizing patients while maintaining both patient and caregiver safety. This paper aims to share the educational efforts that overcame barriers and have resulted in dramatic improvements in staff and patient safety while achieving mobilization goals.

Context

Our team goals were to mobilize patients consistently early and often while keeping staff and patients' safe. We developed a vision of future state of safe patient handling and performed a gap analysis comparing our units to this ideal state. We recognized that we faced many facility-associated barriers. Initially slings were not stocked, and therefore were not easily accessible, and our hospital room design did not easily accommodate mobility. In addition, we faced staffing related issues such as a lack of consistent staff training and relatively high patient handling claims. We had a safe patient handling policy in place, which outlined roles and responsibilities, but the policy was not routinely followed as staff and management were unaccustomed to using lift equipment, and were overcome with challenges. Therefore, team members were not held accountable for the methods they chose to provide care.

We also identified many patient-level mobilization challenges. Patients commonly had undergone surgical procedures; had many co-morbid conditions; were undergoing chemotherapy which induced vomiting and generalized weakness; were advanced in age; were taking pain medications; were confused or were recovering from addictions; were commonly obese; and had cardio-pulmonary deficits that contributed to decreased strength and stamina; had decreased oxygen reserves, and so much more!

Interventions

In order to overcome our challenges, we knew that we had to start small. We reviewed our patient handling claims and fall injury data over a two-year time period to identify our initial target, which yielded our 24 bed medical unit. This unit had ceiling lifts, but they had straight rails, which did not provide adequate room coverage. Fortunately, a new facility was being designed that allowed us to address many of our facility level challenges.

To impact our staffing related challenges, we developed a "minimal lift" policy (See Figure 1) and developed staff education associated with adequately assessing patient's mobility status which included how to define appropriate mobilization aids and how to use a lift and choose the appropriate slings for different patient types. Some of this education used "creative training" programs described below:

Creative Training

Goal: To set mobilization goals; define appropriate equipment; understand how to use the equipment and sling selection.

"The Rodeo" (see Figure 2): Staff were dressed in hats and bandanas and moved from one "corral" to another each having a specific patient scenario that had been developed by our super users of patient handling equipment. Groups of 3 staff members took turns being the patient, mimicking the scenario's limitations, and 2 staff members that used specific equipment/slings/etc. to achieve the mobilization goal.

Take me out to the Ball Game: This creative training program focused on a baseball theme, where there was the batter (patient), the fielder person (operator), and the observer (coach), and again there were patient handling scenarios and the staff rotated through each role.

Creative Training Scenarios: Training Patient Scenarios were developed from events where actual staff and patient injuries had occurred. Staff had input as to the appropriate balance of safety and patient personal privacy.

Scenario 1

Our patient had an appendectomy yesterday and hasn't been out of bed since his surgery.

a. Do a mobility assessment to assess strength start with patient lying down in bed.

b. Ask how the patient is doing (assessing cognition and overall feeling-if patient is dizzy, nauseated, etc.)

c. Bring patient to a side sitting position at the edge of the bed and perform the Dionne's egress test [10,11] to evaluate if the patient is weak, has balance, and is able to stand and walk independently. This patient is unstable and weak from surgery.

d. Use the ambulatory pant or chest vest to promote safe mobility around the room using the ceiling lift. (Patient

1. Purpose

The intent of the policy is to ensure that individuals providing care or assistance to patients utilize minimal manual lifting. This policy reflects a commitment from administrators that proper equipment, adequately maintained and in sufficient numbers, will be accessible for lifting/transferring and transporting patients. The implementation of this policy supports key operating strategies in the following ways:

a. Superior Quality & Safety: Decrease patient falls, skin tears, and abrasions. Decrease extended care resulting from patient handling injuries.

b. Outstanding Patient Experience: Reduce the incidence and severity of patient handling injuries and increase patient comfort, security, and dignity during transfers. Promotes safe patient mobility and independence.

c. Great Place: Engage staff to create a safe and healing environment for themselves, patients and visitors. Improve job satisfaction, decrease turnover rates, and decrease musculoskeletal discomfort.

d. Affordability: Reduce direct and indirect costs by reducing patient handling injuries.

Policy

e. Growth: Distinguish ourselves by becoming a national leader in establishing a minimal-lift facility.

2. Policy

Safe patient handling equipment must be utilized to lift, transfer, transport, or reposition patients. Manual lifting and transfer should not be performed unless use of equipment is medically contraindicated, there is immediate danger to the patient, or there is no feasible alternative.

3. Definitions

a. Manual Lifting: Lifting, transferring, repositioning, boosting, and moving patients using a caregiver's body strength without the use of lifting equipment/aids to reduce the forces on the caregiver's musculoskeletal structure.

b. Safe Patient Handling Equipment: Mechanical equipment used to lift, transfer, reposition, and move patients. Examples include portable lifts, ceiling lifts, stand assist lifts, and mechanized transfer aids.

c. Patient Handling Aids: Equipment used to assist in the lift or transfer process. Examples include gait belts, stand assist aids, sliding boards, and transfer sheets.

Implementation

1. Procedures

Recommendation is departments will have Annual training is highly recommended.

a. Safe Patient Handling Equipment and Aids:

i. Mechanical lifting devices and other equipment/aids will be accessible to staff and stored safely.

ii. Mechanical lifting devices and other equipment/aids will be regularly maintained and kept in proper working order.

iii. Any equipment problems should be reported to Facility Operations.

b. Reporting of Injuries/Incidents:

i. Staff must report all employee incidents- near misses and injuries- resulting from patient handling and movement to the Safety Department and Employee Health Services via the Employee Incident Report Form.

ii. Staff must report all patient/visitor incidents- injuries, falls, complaints- resulting from patient handling and movement in the Event Reporting System (RL6).

2. Delegation of Authority and Responsibilities

It is expected that all employees support a culture of safety. Additional responsibilities include:

a. Senior Leadership will enforce the implementation of this policy.

b. Directors will:

i. Support the implementation of this policy.

ii. Provide staffing levels sufficient to comply with this policy.

iii. Furnish sufficient safe patient handling equipment and aids.

Policy

iv. Be informed of injuries due to patient care or assistance and recommend and/or support a corrective action plan.

c. Managers/Supervisors will:

i. Support the implementation of this policy.

ii. Ensure mechanical lifting devices and other equipment/aids are available, maintained regularly, in proper working order, and stored conveniently and safely.

iii. Verify that employees complete training initially and as required if employees show non-compliance with safe patient handling equipment use.

iv. Require all staff to report staff and patient injuries, incidents, or near-misses.

v. Develop a corrective action plan if an injury, incident, or near-miss occurs during patient care or assistance.

vi. Warrant disciplinary action as appropriate if non-compliance to this policy is identified.

d. Employees will:

i. Obtain necessary safe patient handling equipment/aids, or ensure equipment/aids are available, upon patients' admission to the unit.

ii. Use proper body mechanic techniques, mechanical lifting devices, and other approved equipment/aids during performance of patient handling tasks.

iii. Report injuries sustained while performing patient handling tasks to his/her supervisor.

iv. Inform supervisor of need for re-training in use of safe patient handling equipment/aids or lifting/moving techniques.

v. Notify supervisor of safe patient handling equipment in need of repair.

Figure 1: Minimal Manual Lift Policy.

can walk around the bed and to a commode with the ceiling lift safely not worrying about falling when trying to increase their endurance and strength)

Scenario 2:

Patient has a large wound on his leg and it needs a new

Figure 2: Creative Training: Rodeo.

dressing. The dressing will take some time to clean and dress the wound, and the patient's legs are quite large.

a. Obtain the Multistraps (lifting/turning straps)

b. Bring the bed up to a height that promotes good ergonomic posture (limited staff bending/reaching)

c. Lift the patient's leg with the lifting strap and perform the dressing change.

d. Note: The lifting strap(s) can also be used to:

i. Better visualize anatomic structures when placing a Foley catheter,

ii. Assisting with range of motion exercises

iii. Providing assistance to hold a pannus of a large patient.

iv. Aiding in repositioning a patient with minimal staff effort onto the patient's side to allows cleaning. (This requires two straps that are secured to the bed frame and turning the patient)

v. To lift heavy legs up into bed during patient transfers or while in bed for other reasons.

Scenario 3:

Patient has migrated down in bed during the night. Stress the importance of using equipment to move the patient whether it is the bed, ceiling lift with straps, or a repositioning sheet and eliminate manual boost techniques.

Option 1:

a) Place a repositioning sheet under the patient.

b) Use the repositioning sheet to lift the patient's hips off the bed and let the patient use their legs to assist moving himself/herself up in bed.

c) May also use the bed's Trendelenburg position which uses gravity and minimizes the degree in which the patient is sunk into the mattress. This assists staff in getting the patient moved up in bed without staff straining to assist with a manual boost.

d) Finalize patient repositioning by using the repositioning sheet to assist in placing pillows in strategic places before bringing the patient down to the bed when moving patient in the ceiling lift.

e) Another appropriate technique is to use the repositioning sheet to turn the patient on their side by connecting only one side of the sheet to the ceiling lift for a complete turn on the patient's side.

Option 2:

f) Place the Multistrap (Liko, Chicago IL) under the patient's hips to assist in moving the patient back in correct position by bringing their hips off the bed to allow for freer movement.

Scenario 4:

Moving a bariatric patient using the ERGO Express (PHS West, Inc, Rockford, MN, USA).

a. Demonstrate the usage of the ERGO Express, which is a powered wheelchair transport device for bariatric patients that the staff control. This device enables patient transport from on hospital location to another.

Scavenger Hunt

One last creative training approach that we generated was a scavenger hunt, (see Figure 3) which was a hunt for online videos, injury data and statistics, patient handling newsletters, identity of superusers of lift equipment in their areas, information on equipment and equipment specifications, policies, and photographs of how to use lift items such as chest vests or ambulatory pants. This scavenger hunt is now a creative training program that has become a part of our staff orientation program.

Measures and Analysis

In addition to the training described above, we developed staff competencies for safe patient handling equipment and instated a Minimal Lift policy (Figure 1), which makes staff accountable for their patient handling technique choices. We expanded our reach after successfully changing the culture of the medical unit to other units which included orthopedics, neurosciences, surgical/

1. How do I put in a work order for equipment that isn't functioning correctly? (example a ceiling lift)
2. If the patient or the family refuses to use the lift, what do I do?
3. Looking over 2017 injury data, what profession was injured (recordable injuries) the most?
4. What is the intent of the Minimal Lift Policy GL #6184?
5. What are the only reasons not to use the lifting devices?
6. Where do I get a portable lift and sling if my patient fell down and can't get up?
7. Where can I access the directions for applying the chest vest?

Figure 3: Scavenger Hunt .

digestive, cardio-pulmonary, medical specialties, short stay, and rehabilitation units.

Although measuring the level of mobility would have been a key input for this program, mobility is difficult to measure without advanced equipment and monitoring with technology such as accelerometers, and was not feasible for this effort. However, we were able to monitor staff safety by measuring staff injury claims.

Ethical Considerations

Maintaining patient dignity and demonstrating respect for privacy translates to passionate care. However, safe, adequate care for patients who require assistance during toileting, or who have wounds in the pelvic region, may present privacy challenges. Although staff would like to allow complete privacy, adverse events may occur if the patient is left alone in the bathroom or on a portable toileting chair. Our policy is that staff remains in the patient's room and try to give as much privacy to the patient as possible while keeping them safe. Patient dignity may be enhanced by using lift equipment rather than requiring numerous staff to assist with a procedure, especially for patients requiring wound or incontinence care in the perineal area.

Additional ethical concerns for safe patient handling programs are found in recent reports which have highlighted the tension between promoting mobility and efforts to reduce falls in the hospital [12,13,10]. As many hospital administrations seek to reduce never events, and falls with injury specifically, caregivers may encourage patients who are at risk for falls to stay in bed, which leads to poorer clinical outcomes. During our program to safely advance mobility, our falls rate remained stable. We consider this to be a positive result, as we are mobilizing patients more frequently, and we are mobilizing challenging patients, who previously would not have been out of bed frequently or at all during their hospitalization.

Results

Our program was fully implemented in the medical unit by the end of 2012, and in all units in 2013. Since that time, we have seen reductions in total patient handling claims (59.8%) (Figure 4).

Our falls rate has not increased over the course of this intervention. We consider this a positive result as we are mobilizing patients more frequently and mobilizing more challenging patients, who previously would not have been able to get out of bed. By mobilizing our patients early and often on their recovery path, using additional slings and lifting devices, we encourage patients to become stronger and more mobile, and they may be able to quickly return to a baseline status when they are discharged.

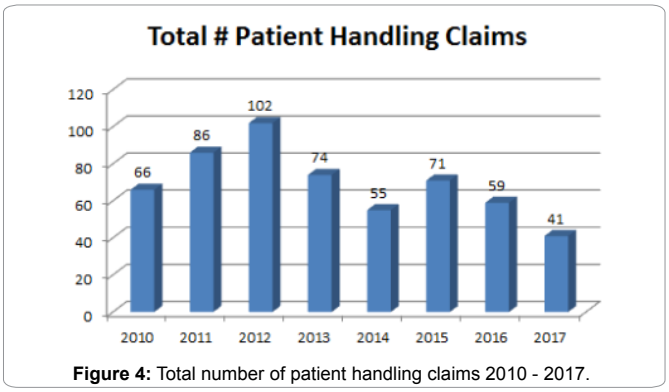

Figure 4: Total number of patient handling claims 2010 - 2017.

Fear of falling is common in the acute care patient population. Patients are recovering from an acute illness, a surgical procedure, or a traumatic event. This fear is real and can impede recovery by limiting patient's mobility thus extending time for them to get back to their baseline. We have included 2 examples below of patients that 1) were fearful about mobilizing, and how we overcame this fear and 2) a patient who was confused and unstable in walking attempts. Managing heavy patients is also very difficult, and we have included two additional patient handling scenarios below as well.

Patient Handling Examples: Current State

Patient 1: Overcoming fear

June* (* indicates the patient name) was hospitalized due to dehiscence of abdominal wounds following surgery. She is very weak and it has been 2-3 months since June* has actually walked. June* is having trouble with urine output and requires frequent straight catheterizations. Over time, June* had improved her strength by sitting at the edge of bed, standing up with assistance and doing leg exercises, however, she is still not strong enough to walk to the bathroom, and requires a bedpan. In order to allow her to go to the bathroom, we implemented the use of a chest vest to assist June* to a standing position and allow her to walk a few steps to the commode, which was the first time she had walked in months. The staff was not concerned about June* falling or concerned about injuring themselves because of their confidence and proficiency in using the safe patient handling equipment. June* progressed over the course of admission becoming more confident in her ability to walk and became more active.

Patient 2: Overcoming confusion and instability

Joe* is uncommunicative, combative, and restless and has been admitted for increased confusion. He wants to walk, but he is a definite falls risk. Before our intervention, several staff would be required walk with him and follow him with a wheelchair to allow him to sit periodically and prevent him from falling. After the intervention, we fitted him with the ambulatory pants and connected him to the Golvo Portable Lift Device, (Liko, Hill-Rom, Chicago IL USA) which allowed staff to let him walk, knowing if his knees buckled or if he stumbled he would be supported in the sling, thus preventing a fall from occurring. This allowed him to walk with assurance that he wouldn't fall and get hurt, and reduced the staff required to a single staff member, who is now protected using the right mobilization equipment.

Patient 3: Increasing mobility and managing injuries in a complex patient

Mary* is in her 60's and weighs nearly 500 lbs. She had fallen down the stairs at home and suffered a cervical spine fracture and 2 broken arms and was admitted from the emergency department. Due to her broken arms, she could not assist the staff in moving her by gripping the bed side rails, as is common practice. Initially it took 4 staff members to get her in and out of bed. Two staff members would help her sit forward, while 2 more staff swung her feet out of bed to get her in a seated position.

These movements had to be done simultaneously, and the brisk motion made Mary* very anxious, especially as she had multiple fractures. Our team developed a transfer method for this patient that was easier on the patient as well as the staff. We used a high back sling to get her from a supine position to a bed side-sitting position. We then disconnected her from the lift system and allowed her to use her leg muscles to stand. This fairly simple solution met our patient's mobilization goals, was well tolerated by the patent and met our caregiver safety goals.

Patient 4: Wound Care for the bariatric patient

Nancy* is a bariatric patient with wounds located in her groin and buttocks area that are very hard to see without rolling her over and lifting her legs up. To effectively clean, assess, and change the dressing we used leg straps to lift and reposition her legs. We even saw the physicians using our leg strap method to change the dressing - which was awesome to see! We used the lift sheet to help get her on her side, then we used leg straps to get a better visualization of her wounds and access to change the dressings. We significantly reduced the number of staff members required for these procedures, which may have inadvertently lessened the patient's perception of invasion of her privacy.

Additional Program Outcomes

Other changes included new reporting of "assist to the floor" data which is now incorporated into our fall data. We have communicated that these assists reduce staff injuries by training staff to not to try to keep patients upright, but soften their fall and not resist this movement so they don't put themselves at risk for injury.

Summary

Patient mobility is recognized as a critical factor of care for the hospitalized patient. However, becoming a facility that provides consistent house-wide mobilization is difficult to achieve. Safe patient techniques may not be commonly taught in this level of detail in academic nursing programs, and may be specific to hospital purchased equipment. We believe strongly that becoming a culture of safety requires ongoing discussion and multidisciplinary collaboration. This publication seeks to give real examples of training materials and techniques, protocols, and patient challenges which have enabled us to become a facility that mobilizes patients early and often while keeping our staff safe. We are far from a perfect organization and have more work in this area ahead of us.

Many hospitals purchase lift equipment that rarely gets used, and may sit at the end of the hallway untouched, which was where we started prior to comprehensive staff training and a minimal lift policy that held staff accountable to use the existing equipment. Since that time, staff have become more engaged as we have been working through the barriers of lift usage. We still review our Safe Patient Handling/Mobility Program annually to identify better, safer techniques for mobilizing our patients within our organization.

Interpretation

The key elements of our program have been the annual creative training techniques, a minimal lift policy, inserting lift mobilization training into our staff orientation, the reliance on "Super User's" to assist in defining appropriate lift techniques and equipment for challenging patients, and perhaps most importantly, a general cultural change.

Currently staff is bringing difficult challenges to our team and we discuss how to manage them better. We are working on different training scenarios and still have a lot of work to do, however, we have come a very long way over the last several years.

Limitations

Our report is limited by not having data on the level of mobility of our patients before and after the implementation of our program. Our claims data is not unit specific over the time period, as many staff rotates from unit to unit. Additionally, injuries associated with patient handling are often repetitive injuries, and it would be difficult to know exactly what floor the injury occurred.

Conclusions

Safe patient handling programs need to be ever expanding and embraced within the organization. Multidisciplinary staff needs to work together. Creatively making training fun enhances learning and breaks down barriers for healthy interactions amongst staff. Our staff changed from being fearful about using mobilization equipment to being confident users. Our organization has reduced staff injuries by embracing this program, and they know that we as management care about their safety as much as we care about patient care. Sharing best practices of educational models and tools by nurse educators may allow a more widespread adoption of safe handling equipment.

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