Establishing a Mobility Protocol in a Medical Surgical Unit

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Abstract

Background/Objective: Post-operative mobility decreases pain, reduces risk of deep vein thrombosis and pneumonia, and reduces patient length of stay and cost of care. Mobilization is generally underutilized for hospitalized post-surgical patients. Successful implementation of an early progressive mobility protocol (EPMP) is highly effective in increasing mobility rates.

Design: An EPMP was developed and implemented at a surgical inpatient unit within an urban Nevada hospital. The EPMP described that patients would mobilize 50 feet once on post-op day #0 and 50 feet three times each day thereafter. The control group was selected from patients three months prior to protocol implementation, the intervention group three months after implementation. A Mann-Whitney U Exam was conducted to evaluate differences in number of mobilizations per day between the two groups while a comparison of percentage of met mobilization rates between the groups was generated. Limitations to design implementation included the use of float-staff at the project site, low census of neurosurgical patients, and a limited time-frame.

Results: Comparison of the markers for central tendency between both groups yielded a statistically significant increase in number of mobilizations per day for patients after the implementation of the EPMP versus before the implementation of the EPMP ($P=0.039$ or $P<0.05$). Percentage of patients who met mobility goals increased after the implementation of the EPMP.

Conclusion: An EPMP markedly increased mobilization rates for post-surgical patients. This model may assist with the development of mobility protocols for post-surgical patients in the inpatient setting.

Establishing a Mobility Protocol to Improve Patient Outcomes

Current literature supports early ambulation as the most significant nursing measure to prevent complications during the postoperative period (Lewis, Heitkemper, & Dirksen, 2004). National guidelines by the Agency for Healthcare Research and Quality (AHRQ) regarding early progressive mobilization (EPM) show mobilization to be safe and feasible, with benefits such as decreased length of stay and reduced medical complications (AHRQ, 2017). A standardized EPM protocol (EPMP) can help to emphasize the importance of EPM for both nursing staff and patients (Floyd, Craig, Topley, &Tullmann, 2016). Successful implementation of these EPMPs can help improve patient outcomes and quality metrics (AHRQ, 2017).

Within the large urban hospital of focus, the lack of a comprehensive EPMP has become a targeted objective for the interdisciplinary neurosurgical team. Neurosurgeons have proposed EPM goals for their postoperative patients. Unfortunately, the EPM goals by these providers have not been met consistently. Stakeholders, providers, and unit leadership are concerned regarding the increased risk in medical complications, and increased length of stay associated with inadequate postoperative mobilization (Pashikanti & Von Ah, 2012). A formalized protocol containing these EPM guidelines would be the first regarding the topic within the focus hospital.

Background

Dr. Canavarro was an early mobility pioneer during World War II (Canavarro, 1946). During the era of his study, the standard routine ambulation with surgical patients was delayed until postoperative day 10 (Canavarro, 1946). His program encouraged early mobility starting on the first postoperative day (Canavarro, 1946). Through his early ambulation program, Dr. Canavarro reduced postoperative complications by approximately 50% (Canavarro, 1946). Regarding his findings on early mobility he wrote, “There is a saving in time, money, and a more rapid turnover of patients per bed per month” (Canavarro, 1946, p. 181). The background to the

EPM movement begins with these encouraging results of the World War II era study.

In recent years, mobility has become a major focus in the intensive care unit (ICU) setting. The Society of Critical Care Medicine embraces early mobility for their patient population (Corcoran et al., 2016). The group has found implementation of early mobility in the ICU reduces length of stay, costs, and need for post-acute services (Corcoran et al. 2016). While great advancements have been made in critical care settings, medical-surgical units have lagged in their implementation of EPM and realization of EPM benefits.

Problem Statement

In March of 2019, at a quarterly module meeting, the author's unit management met directly with the neurosurgeons to discuss patient outcomes and potential improvement plans. Collaborative goals were addressed to ensure positive outcomes for patients. It was during this meeting that results from a random mobility audit were presented. This audit revealed an only 35% compliance with the proposed mobilization goal of ambulating 50 feet the day of surgery, and at least 50 feet three times daily thereafter. It was clear that a culture change needed to take place to improve adherence to these goals, and ultimately improve patient outcomes. Stakeholders identified that a project surrounding increased patient mobility could reduce length of stay, costs, and further complications associated with immobility. Research consistently suggests that the development of standards of care for mobility in hospitalized patients results in positive patient outcomes (Padula, Hughes, & Baumhover, 2009). A proposed mobility protocol for the care of postoperative patients for this urban facility has obvious applicability, and capacity to improve outcomes in the neurosurgery patient population.

Identified mobility goals have not been consistently met by the neurosurgical unit of focus. General nursing guidelines currently exist for unit mobility, but a protocol is not in place. Pashikanti and Von Ah (2012) found that prolonged immobilization of patients results in

functional decline, increases the risk of hospital-acquired pneumonia, and increases length of stay. A series of studies conducted with surgical populations determined early mobilization protocols reduced the rate of complications (e.g. respiratory decomposition/pneumonias, deep venous thrombosis/pulmonary embolism, urinary tract infections, sepsis or infection) along with the average length of stay (Epstein, 2014). Another study found early goal-directed mobilization to be feasible, and reduced length of stay as a result of active involvement by nurses (Alugubelli, Al-Ani, Needham, & Parker, 2017). With the positive benefits and money saved from further complications, authors Hunter, Johnson, & Coustasse (2014) argue that early mobilization is a vital standard of care. A survey conducted at the project site indicates that barriers to adequate patient mobilization include insufficient time to perform patient care, documentation confusion, and occurrences of mobilization refusal in this patient population (M. Allen, personal communication, March 20, 2019). Alleviating these barriers and creating a comprehensive EPMP will provide the opportunity for improved patient outcomes.

Purpose Statement

The intended purpose of this doctoral project is to develop an EPMP at the focus facility that will increase patient mobility rates from 35% to 60%. Further intended outcomes include: decrease average length of stay by one day, educate staff, and increase the staff compliance with patient education regarding benefits of mobility. Research surrounding patient mobilization has suggested that positive outcomes are achievable through a standardized mobility protocol. Studies have shown that progressive mobility protocols may reduce length of stay, reduce rates of infection, increase the functional status of hospitalized patients, increase their probability of being discharged to their home and reduce facility costs (Liu et al., 2017; Hester et al., 2017).

Project Question

Will neurosurgery patient mobility increase from 35% to 60% over a six-week period

through the implementation of an EPMP?

Project Objectives

In the timeframe of this DNP project, the host site will:

1. Develop an evidence based EPMP designed to meet the needs of postoperative neurosurgery patients at the project site.
2. Implement an EPMP at the project site in the timeframe of the DNP project.
3. Provide multidisciplinary staff education and training for the EPMP prior to implementation of the DNP project.
4. Improve patient mobility rates from 35% to 60% through the implementation of an EPMP.
5. Develop a system for monitoring ongoing mobility through electronic medical record (EMR) audits.

Significance

Random mobility audits conducted at the project site reveal a disappointing mobility rate of 35%. This low rate of achieved mobility has associated increased risks of prolonged lengths of stay, elevated healthcare costs, and medical complications such as thrombus formations and diminished lung function. Providers, nurses, patients, and stakeholders are concerned about the low mobility rate and have requested dramatic change for better patient outcomes. The implementation of this DNP project is essential to achieve positive results and goals set by such stakeholders. Successful implementation of an EPMP is needed to reduce medical complications, decrease patient length of stay, and ultimately reduce the cost of care (Cororan et al., 2016; Epstein, 2014; Kalisch, Lee, & Dabney, 2013). Overall, dramatic change is needed for the improved outcomes desired. Implementation of a successful EPMP program through this DNP project intends to achieve goals though targeted, evidence-based intervention.

Search Terms

A robust literature search targeting patient mobility was conducted. The terms included in this search were as follows: mobility, mobility protocol, early mobility, early progressive mobility, early mobilization protocol, early progressive mobility and surgical patients, progressive mobility in ICU, and early progressive mobility and medical. Library databases that were used included CINAHL, Cochrane, Ebsco, Google, Google Scholar, Proquest, and Pubmed. Hundreds of results were revealed on the initial search. The search was then limited to studies from 2009-2019 with the exception of a historical article which spoke to the beginnings of early mobility. The research utilized for this DNP project was also narrowed to peer-reviewed journals. Currently, a protocol for EPMP does not exist at the project site. No other materials were obtained at the project site.

Review of Literature

Early progressive mobility is defined as a series of planned movements in a sequential manner beginning at a patient's current mobility status with a goal of returning to his/her baseline (Vollman, 2010). The majority of neurosurgical patients are receiving elective surgery; hence they are expected be able to mobilize with assistance immediately after surgery. Unfortunately, this is not being completed consistently at the project site. Best interventions for mobility are identified through the following research review.

An early 19th century study was one of the first to examine the impact of early mobility in surgical patients during World War II (Canavarro, 1946). A surgeon by the name of Dr. Canavarro experimented with early patient mobility in his post-surgical patients (Canavarro, 1946). At the time of the study, common practice was to have patients wait ten days after surgery before attempting mobilization (Canavarro, 1946). By implementing early mobility, Dr. Canavarro was able to reduce infection rates by 50%, increase the rate of patient turnover, reduce length of stay, and reduce the cost of care (Canavarro, 1946). This study was the first of its kind, highlighting the

benefits of early mobilization. Subsequent literature has shown consistent results and has discovered further benefits related to early mobility.

Benefits of Early Mobility

National Guidelines

In 2017, the Agency for Healthcare Research and Quality (AHRQ) issued National guidelines addressing early mobility in the acute care patient population. Their recommendations include a functional assessment of patients to improve functional status and to mitigate decline of activities of daily living (ADL) status (AHRQ, 2017). There are decisive results from the reviewed literature highlighting mobility programs for the hospitalized adult population. Research robustly suggests the utilization of an evidence-based mobility protocol led by frontline nursing staff as an indication of best practices (AHRQ, 2017).

Studies Supporting Early Mobility

Researchers have extensively studied mobility in the ICU and acute care populations. Patients in the ICU are at risk for worsening weakness during time of immobility. Such weakness may necessitate a longer time on ventilator support, increased length of hospital stay, and a poorer quality of life (Herridge, 2009). Growing evidence shows that early mobilization of patients is a safe and cost-effective strategy to improve patient outcomes in the ICU (Harris & Shahid, 2014). EPMPs have been shown to decrease the negative consequences of ICU-acquired weakness (Schmidt, Knecht, & Macintyre, 2016). A nurse facilitated EPMP is also shown to reduce delirium, improve muscle strength, increase functional status, improve quality of life, decrease cost of care, reduce time on ventilator support, reduce rate of infection, and shorten the length of patient stays in the ICU (Cain, 2018; Hunter, Johnson, & Coustasse, 2014). The promotion of an EPMP in a teaching hospital's ICU revealed that patients were able to return to ADLs four days sooner while being discharged three days faster when successfully mobilized according to their program

(Olkowski et al., 2015). The benefits of early mobility on ICU patients has been extensively studied, with encouragingly positive results.

Mobility as an intervention within acute care settings has increased in popularity in current research. In postoperative surgery patients, there is convincing evidence that suggests that patients should not be kept in bed after surgery and furthermore, early mobilization is a key intervention to promote better patient outcomes (Castelino et al., 2016). The implementation of early mobility in acute care has had many positive effects including the reduction of pain, reduced incidence of deep vein thrombosis, less fatigue, reduced anxiety and depression, reduced distress, improved patient comfort and satisfaction, improved quality of life and independence, decreased length of stay, improved mortality, and reduced cost of care (Kalisch et al., 2013).

A large retrospective mobility cohort study of 12,490 patients of ages 65 and older was conducted at 14 different hospitals in acute care settings (Liu et al., 2017). Researchers found that patients spent, on average, only four percent of the day out of bed (Liu et al., 2017). With the implementation of a mobility protocol, mobility increased by 11%, length of stay decreased by six days, functional status improved, and the likelihood of discharging home increased (Liu et al., 2017). This study is especially applicable to the patient population in the project site as the average age is comparable to this study population.

A multidisciplinary cohort study was implemented in a large academic hospital as a quality improvement project to increase patient mobility and decrease patient length of stay. Through implementation of the project, mobility rose from 43% to 70% over a year and length of stay decreased by an average of one day (Hoyer et al., 2016). Another hospital based randomized control study examined the use of an EPMP on 104 patients. The experimental group received goal-directed early mobilization and the control group received standard care. Of the experimental vs. the control group, 52% vs. 25% were able to walk at discharge, 51% vs. 28% were functionally

independent, and 51% vs. 27% were able to discharge home without needing further rehabilitation (Alugubelli et al., 2017). This study demonstrates that early mobilization can have dramatically beneficial effects for post discharge outcomes.

An EPMP cross-sectional study was completed in a 30 bed academic medical center over a two-year period of time. With the implementation of a mobility protocol, length of stay was reduced from 14 to 9 days, hospital acquired infections were reduced by 50%, and costs were reduced by approximately $12 million dollars (Hester et al., 2017). A controlled trial study of 160 patients in a separate academic hospital was initiated with an EPMP. Average length of stay decreased by 40%, and 40.5% were discharged home without needing extended rehabilitation compared to just 18% in the control group. This resulted in a savings of $1.5 million in one year and decreased the need for post-acute care services (Corcoran et al., 2016).

Major Themes

Several evidence-based EPMP results are thematic in the comprehensive literature review. The implementation of a nurse driven EPMP is the hallmark of best practices to achieve these results. Outcomes of EPMPs include reduced delirium, decreased time on ventilator, improved functional status, improved mobility, reduced infection rates, decreased length of stay, decreased morbidities and overall reduction of costs. After reviewing the literature, it is clear that an EPMP could be beneficial for the neurosurgery population to meet the objectives of stakeholders and improve patient outcomes.

Impact of the Problem

The mobility goal set by stakeholders and the education department is not being met. Only 35% of surgical population ambulated 50 feet the day of surgery and at least 50 feet every day after according to data derived through a random audit. The lack of mobility increases risks for further medical complications and increases overall length of stay. With the influx of new nursing staff, an

opportunity exists to further their education on the benefits of mobility. This improved education and a standardized protocol to match has potential to drastically improve patient outcomes within the project unit.

Current Management

Currently, goals exist for the project unit regarding standardized mobility achievement. However, a standardized mobility protocol does not exist for the neurosurgery unit or the facility as a whole. A large educational gap on the benefits of early mobility has been identified within the newer nursing staff. There is a clear disconnect between the goals of mobility and the structural support to achieve these goals.

Current Recommendations

Literature reinforces the development of standards of care for mobility to achieve positive patient outcomes (Padula et al., 2009). The AHRQ created a mobility algorithm that can be adapted into a protocol specific to the project site. Exclusion data criteria for mobility includes: unstable vital signs, orthostatic blood pressure or pulse criteria, specific weight-bearing restrictions in place, acute fracture, acute stroke, recent arrhythmia, recent cardiac ischemia, hemoglobin < 7, platelets < 20,000, or agitated, aggressive, or impulsive behavior (AHRQ, 2013). Inclusion data criteria includes: able to follow commands, stable vital signs, needs assistance with transfers and/or ambulation, and willing to participate in mobility activities (AHRQ, 2013). If the patient does meet inclusion criteria they are advanced to the edge of the bed, they then sit for three minutes without dizziness, advance to standing, stand without dizziness, transfer to a chair, require one person minimal to assist, can take steps, ambulate 50 feet while maintaining balance, and are able to mobilize (AHRQ, 2013). If the patient is unable to complete any of the steps a physical therapy/occupational therapy consult is placed. Successful completion of the algorithm warrants further mobility at the same level.

The clinical practice guidelines for the prevention and management of pain, agitation, delirium, immobility, and sleep (PADIS) have recommendations for improving patient mobility. While these guidelines are typically used in the ICU environment, many of these principles translate well within the medical/surgical care environment. Indicators for initiating mobility with patients through PADIS guidelines include cardiovascular, respiratory, and neurologic stability (Devlin et al., 2018). The PADIS indicators for stopping mobilization include patient distress or falls, as well as respiratory, cardiovascular, or neurologic instability (Devlin et al., 2018). It was found that safety events were very rare when ambulating patients. Specifically, out of 12,200 mobility sessions only 15 safety events occurred, most of them being respiratory related (Devlin et al., 2018). The review of the literature indicates that the creation of a mobility protocol is necessary to achieve the desired outcomes of stakeholders.

Issues Still under Investigation

While no specific evidence-based practice could be found regarding a certain distance for postoperative patient mobility, clinical expertise provided by the surgeons and clinical educators helped stakeholders create the goal for surgical patients to ambulate 50 feet the day of surgery and at least 50 feet three times daily thereafter to reduce risks. These are common distances patients ambulate at home upon discharge. Being able to mobilize without assistance enables patients to be discharged home instead of to another facility, such as a rehabilitation hospital or a skilled nursing facility. Discharging successfully directly to home decreases total cost of care to the patient, and improves long-term outcomes.

Theoretical Framework

Theories help to explain, predict, and understand phenomena, while simultaneously challenging and extending existing knowledge (Abend, 2008). Kurt Lewin was one of the first theorists to address how and why changes occur. His change management model includes three

stages: unfreezing, change, and refreezing (Mitchell, 2013). A diagram of the model is provided for reference in Appendix A of this paper. Lewis's Change Theory will serve as a catalyst in the change process to reawaken front line staff and motivate them to successfully implement the EPMP.

Historical Development of the Theory

Originally native to Poland, Lewin's parents moved their family to Berlin in an effort to provide Kurt a better education (Lewin, 1992). His original focus as a medical student diverted to the social sciences as he became involved with socialist and women's rights movements (Lewin, 1992). It was at this time that his interests turned towards philosophy with the majority of his coursework established within psychology. He also spent time in military service, serving Germany during World War I. His tenure in the service was halted when he was wounded in action. After his military stent, he was sent home and completed his PhD at the University of Berlin (Lewin, 1992). Lewin was very interested in the behavior of groups and what could be done to improve group dynamics. He was also a humanitarian who aspired to resolve social conflict of all different kinds. He immigrated to the United States in August of 1933 and worked at several different universities including Cornell, Iowa, and eventually served as the director for group dynamics at the Massachusetts Institute of Technology (MIT) (Lewin, 1992). During his time at MIT, he was commissioned to find a proposed solution to racial and religious prejudices. His change experiment set the foundation for, what is known by the modern designation, sensitivity training (Lasch-Quinn, 2001). Sensitivity training is designed to enable others to be aware of their prejudices and be more sensitive within the dynamics of a group interaction. This training method was the beginning of his three-step change process theory. The utilization of Lewin's Change Theory is a classic approach for managing change within healthcare settings (Cummings, Bridgman, & Brown, 2016).

Applicability of Theory to Current Practice

Healthcare systems today are complex, adaptive, environments where interdisciplinary teams must work together for changes to take place. The use of Lewin's Change Theory has been proven effective in the health care environment. The theory has provided foundations for nurses in the form of various quality improvement projects to transform care at the bedside. This theory helps to guide nurses through change transitions as well as help change drivers identify areas of both strengths and weaknesses prior to implementing change. The theory works best in stable environments that are implementing small-scale changes (Shirey, 2013). Numerous studies have shown the effectiveness regarding utilizing the change theory when switching to barcode medication administration (Bozak, 2003; Lehman, 2008). The theory has also been beneficial with the implementation of bedside shift report (Wojciechowski, Murphy, Pearsall, & French, 2016). Even though this theory originated with Lewin in the 1940s, modern applications keep it relevant to current practice. Lewin's theory guides change by creating problem awareness, revealing benefits of change, and stabilizing change in the formation of a habit.

Major Tenets

The first major tenet of the theory is unfreezing. In the hospital stetting, this may involve a nurse leader recognizing a problem, identifying the need for change, and helping others to understand the need for change (Shirey, 2013). Individuals predominately have the tendency to resist change. All previous, less productive behaviors and processes must be addressed to persuade employees regarding the reasons why change would be beneficial (Cummings et al., 2016). Effective leadership can illustrate discrepancies between the current state of the problem and the desired state of the solution (Shirey, 2013). Staff members need to fully understand the current position and the potential for improvement. With effective exposure of the problem and motivation toward improvement, individuals are encouraged and inspired to change.

The second major tenet of the theory is the actual change state. This part of the theory is a process and a transitional period, not a one-time event. This step involves creating a plan of action and engaging staff to try the proposed change (Shirey, 2013). During the change transition it is crucial to use open communication. Effective change requires staff to embrace the change and feel supported by their leadership team. Time and patient instruction will be required for effective change. Leaders need to understand the process element of change and the effort required to make a new change effective. Throughout this second phase, staff requires constant reminders of benefits the change will provide (Cummings et al., 2016). Keeping the goals and benefits visible to staff will help them tackle difficult steps in the process. Consistent motivation and support is necessary for effective change.

The final tenet is referred to as refreezing. Refreezing occurs when the individuals are comfortable and confident with the changes that have taken place. The change becomes embedded into staff culture, policies, and practices (Shirey, 2013). Their effective behavior will be ingrained to a point they do not revert back to their prior inconsistent ways, and the higher level of performance expectations will be established. The last tenet is crucial for change sustainability over time.

Theory Application to the DNP Project

Effective change is required at the current project site in order to develop a functioning EPMP. The major tenets of Lewin's Change Theory will be utilized to bring about effective change including the stages of unfreezing, change, and refreezing.

The unfreezing stage will prepare front line staff for the implementation of an EPMP**.** The introduction of disequilibrium into a system initiates the unfreezing stage, and in doing so, will establish the need for change (Roussel, Swansburg, & Swansburg, 2006). To successfully inspire change within the staff at the project site, staff will need to have a clear understanding of what is,

and is not being achieved by the current mobility efforts. This exposure will be accomplished by facilitating data during the monthly team meeting. The discussion will show intriguing information through PowerPoint, Epic screen shots of actual charting, unmet goals of neurosurgeons, and shortfalls in desired patient outcomes. Analogies and storytelling could be utilized to better demonstrate points of concern to staff (Timbrell, 2017). Storytelling is a powerful tool to achieve learning outcomes with nurses (Timbrell, 2017). During the conversation, the previous and ineffective behaviors, attitudes, values, and beliefs will need to be challenged. This step has potential to make staff uneasy and may be the most challenging and difficult task for the leadership team (Manchester et al., 2014). Front line staff will be in a state of disequilibrium, and strong reactions may be evoked. This stage is to be treated as a controlled crisis and any doubts or concerns the staff may have will be addressed. To be successful, this first stage must be executed with precision and accuracy. Stakeholders and unit management will provide full support to staff during this transition. Without this uncomfortable, but crucial step, staff will not have the motivation to realize a proper change.

The next step in the process is the change phase. Transitioning from the unfreezing stage to the change stage must be completed over a period of time to provide effective time for learning and growth. Front line staff will be motivated to look for a new approach and direction after discovering the ineffectiveness of their previous methods. It is during the change phase that problems are solved, information to reset expectations for staff is available, and detailed plans for innovations are furnished (Marquis & Huston, 2008). Front line staff will need to understand how mobility not only benefits the patients, but also themselves. For the EPMP to be successful, effective communication and adequate time are needed. Purposeful action will be taken to create the change. Staff will need frequent education and reminders. This can be reinforced during daily huddles, one on ones, and through the implementation of the new protocol.

The final step in the process is the refreeze step. This is where EPMP is solidified and front line staff is brought back in a state of equilibrium. Mobility audits will be completed weekly to reinforce the change with the goal of reaching 60% ambulation rate for the inpatient surgical population. The audits will also show how well the EPMP is being embraced and maintained by the bedside nursing staff. Close monitoring is needed to ensure that staff do not revert back to their old, ineffective ways. With effective change implementation, EPMP will be the norm for the hospital staff. Staff will appreciate the benefits and embrace the positive change for their patients. Patient outcomes will reflect the positive impact created by effective change.

Utilizing Lewin's Change Theory, a proven effective model in hospital settings, will ensure success for the positive changes required in implementing the EPMP. Going through each stage methodically, allowing staff to fully embrace each step in the process, will provide the best opportunity for the change to be successful.

Project Design

This project design will be quality improvement in nature. As described by Quality and Safety Education for Nurses (QSEN, 2014), the quality improvement project type involves "using data to monitor the outcomes of care processes and using improvement methods to design and test changes to continuously improve the quality and safety of health care systems" (p.1). The proper application of this design choice will facilitate the improvement of mobility rates. Based on evidence-based practice, the implementation of a nurse driven mobility protocol is the most effective way to create lasting change (AHRQ, 2017).

Prior to the start of project implementation, a meeting will be held with project participants on the neurosurgery team. During this meeting, data showing the low mobilization rate will be discussed as part of the unfreezing stage of Lewin's Change Theory. All identified potential barriers to the completion of mobility will be discussed and staff will be able to express concerns.

Expectations will be set with clear project objectives, and optimal patient outcomes will be presented according to evidence-based practice. The goal and purpose of the project will be explained. A challenge will be issued to the floor to see if mobility can be improved to meet the 60% mobilized level within a six-week period of time.

Population of Interest

The population of interest is the neurosurgical nurses and aides. Currently, there are 35 nurses and 15 aides. The majority of the nurses are newer, with less than five years experience. The project participants will receive education to improve mobility rates and will be challenged with a new mobility goal. Lasting improvement will require a change within the nursing staff to create a culture where mobility is a standard of work. Just as important as the actual act of mobilization, the correct charting will be a key focus for the nursing staff.

The indirect population of interest is postoperative neurosurgery patients. Patients who are on physician-ordered, strict bed rest will be excluded from the project because their appropriate lack of mobility will alter the data. All other surgery patients will be included on arrival to the neurosurgery floor after their operation. Post-operative day zero through discharge date will be evaluated.

Setting

The project site will be a neurosurgery floor in an urban medical center. At full capacity, the unit can accommodate 29 patients in all private rooms. Bedside nurses ideally have a nursing ratio of one-to-five, but at times, one-to-six. There are several physicians and physician groups that admit postoperative neurosurgery patients to this unit. Surgeries are preformed primarily Monday through Friday, and the unit averages ten surgical patients each day. Notable to the setting, and helpful for the project implementation, distances have been measured outside of patient rooms with stickers in ten feet increments to track mobility efforts. Dedicated physical therapists and

occupational therapists round on the patients daily.

Stakeholders

Primary stakeholders include hospital administration, neurosurgeons, and leadership from the project site. Elective neurosurgeries are one of the most profitable services performed by the project site, with an estimated two million dollars a month being generated by the services performed (P. Kilonzo, personal communication, July 17, 2019). Continuing best practices within this area are vital to maintaining high expectations from the potential patient population.

Neurosurgery is a specialized practice, and by offering services for these types of operations, the hospital is able to attract patients from a wide geographical radius. While there is competition with other area hospitals, the project site is the primary center for neurosurgeries in the area. Neurosurgeons have high expectations for the postoperative care of their patients and necessitate best practice nursing care.

Unit leadership is held accountable for best practices within the unit, and for maintaining optimal outcomes for their patients. Leadership works to support floor staff in performing best practices, as well as achieving optimal patient outcomes, positive patient satisfaction results, and associated Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores.

Recruitment Methods

Permission for the project was received from hospital administration at the director, educational, and floor leadership levels prior to the start of the doctoral program. Buy-in will need to be achieved within the nursing department, specifically from bedside nurses and aides. Early patient mobility is an existing expectation within the unit, however the goal of nursing driven mobility has not been met. The nursing staff is vital to the success of the project, and their enthusiasm for the initiative will drive results.

Surgical patients need to ambulate 50 feet the day of surgery, and at least 50 feet three times daily thereafter. Dayshift will be responsible for two walks during their shift, and nightshift will be responsible for one walk. These walks can be delegated either to the nurse or aides. Structuring the walk schedule will create a standardized expectation, making it easier to track and enforce mobility performance. Charting mobility in the EMR will be the expectation; accurate documentation will be necessary for tracking and goal measuring. In order to have maximal training attendance, announcements will be made via email, posters, and in daily huddle prior to the monthly meeting. Training will occur during the team meeting, and each nurse and aide will also receive one on one computer training with the project lead. This training will demonstrate proper charting, reinforce benefits of mobility, and allow each nurse or aide to ask questions while maintaining patient confidentiality. Refreshments will be provided at the meeting to encourage the highest possible attendance. The initiative will be a focus during monthly team meetings, daily huddles, and direct one-on-one coachings with staff. The instruction will focus upon the benefits of early mobility and the advantages that early mobility provides to long-term outcomes. Nursing staff will be able to ask questions and receive support and clarification so that expectations are clearly set.

During the project implementation phase, the nurse or aide with the best mobility rate will receive a prize. Research shows that incentives can produce significant productivity gains with members of the healthcare team (Bond, 2013). The audits will be completed randomly and the winner with the highest mobility percentage will be announced during daily huddle.

Tools/Instrumentation

Multiple tools will be utilized during the project. One of those will be the EPMP, which will be developed by the project lead and approved at the project site (Appendix B). Another tool is a PowerPoint presentation, which will be used for staff education during the team meeting

(Appendix C). This PowerPoint will be validated and reviewed by leadership prior to presentation. Emails will be sent out directly to each floor nurse and aide as an invitation to the meeting. Poster invitations will be placed in the neurosurgery break room and all neurosurgery restrooms (Appendix D). A mobility audit tool will be utilized to make graphs representing mobility goal achievement (Appendix E). This tool will also allow continued monitoring post project. It will be constructed in a simple format that will be easy to read and follow. Randomly each week, all the surgical patients' charts will be audited. Data will be compiled based on the charted mobilization. If charting is not complete, the nurse and aide will receive a reminder note with the room number missed as well as the expectations for mobility. This task will become a responsibility of the unit clerks to ensure sustainability of the project for the future.

Data Collection Procedures

A mobility audit form has been created for the corresponding room numbers on the floor (Appendix E). Data will be gathered directly from the EMR where mobility is charted. The audit form contains a column to distinguish if the patient is a surgical patient. Another column asks if the patient ambulated the first day of surgery. The next column asks if they mobilized 50 feet at least three times daily thereafter. Based on the answers to the questions, a total number of surgical patients is calculated. The number of patients that successfully completed the activity is then divided into the total number of patients to show a percentage. The goal is 60% achieved mobility. If charting is missed, the unit clerk will provide a follow up reminder form to the primary nurse as well as the aide assigned to the specific patient. Further education will also be provided. Missing data will be included in the calculation of mobility percentage as a failure to mobilize.

Mobility rates will be compared before and after project implementation. Data from October/November 2018 prior to the interventions will be compared to October/November 2019 with interventions. This will be done using the mobility audit form with patient data retrieved from

the EMR, while respecting confidentiality (Appendix E). All 29 patient rooms will be audited on a weekly basis. Exclusion data will be patients on bed rest. All other patients without mobility restrictions will be included. With current mobility rates at 35%, project objectives will be utilized to bring floor mobility to the overall mobility goal of 60% or higher within the six-week time period.

The audit will be completed on a high volume surgery day each week. This will enable the project lead to accurately gage mobility performance for the surgical patients. Mobility data will be obtained from the EMR under the Activities of Daily Living (ADL) section. If a patient successfully ambulates 50 feet the day of their surgery, they will be considered a successful ambulation. Lack of ambulation and too short of ambulation distances will be counted as a failed ambulation. After the first day of surgery, patients will need to ambulate at least 50 feet three times a day. This will need to be charted appropriately in the EMR. Three separate walks need to be documented within a 24 period, each totaling at least 50 feet. If these measurements are not within the correct frequency or distance parameters, the mobility will score as a fail. The day will be measured from 0000 and end at 2359 (military time). Successful mobility will be divided by total eligible surgical patients to calculate an ambulation percentage.

Intervention and Project Timeline

Approval for the intervention was successfully obtained through unit leadership and the risk management department prior to the start of the project (February 2019). Support was garnered by stakeholders as part of this approval process.

As discussed previously, mobility data will be retrieved from October 2018, prior to intervention implementation. This data will be taken from the EMR using the mobility audit form (Appendix E). This data will provide a clear picture of the mobility efforts prior to the interventions.

Project participants will include all unit staff nurses and aides. Full time, per diem, and traveling staff will be included in the education and utilization portions of the project. During the October 2019 team meeting, education will be provided to all floor nurses and aides showing the benefits of mobility, as well as the current state of those efforts. Each staff member will receive a personal email invitation to the team meeting, posters will be placed strategically throughout the unit for advertisement, and refreshments will be provided to ensure the best attendance possible. The approved PowerPoint presentation will be presented to the nursing staff (Appendix C). The PowerPoint will help describe the timeline for intervention and the proposed plan. Over a six-week period starting October 23rd 2019, patient mobility standards will follow the new EPMP (Appendix B). Nursing staff will be instructed regarding expectations for both mobility and documentation. The EPMP will be presented (Appendix B). Surgical patients will need to ambulate at least 50 feet the day of surgery and at least 50 feet three times daily thereafter. Day shift staff will be responsible for two walks during the day, and night shift will be responsible for one walk at night. This instruction will be reinforced during daily huddles and direct one-on-one coachings with staff during the months of October and November.

Starting October 30th, one week after project implementation, data will be collected randomly once a week to evaluate the success rate of mobility after project implementation. Starting the fourth week in October, the staff member that has the highest mobility percentage will receive a prize.

The six-week period will end December 3rd, and all data will be synthesized and analyzed for statistical significance. Data synthesis results will determine if the mobility rate is higher using the interventions. If the mobility rate is 60% or higher, the project will be successful.

Ethics/Human Subjects Protection

The protection of staff will be of utmost importance throughout the realization of this

project. Staff will not be exposed to any additional risks outside of daily tasks, as mobilization has always been encouraged and emphasized as a nursing task. Mobility classes are taken upon hire to the organization, which provides nursing staff with a baseline knowledge on safe mobility practices and procedures to ensure staff and patient safety.

Confidentiality will be protected explicitly. Maintaining patients' privacy and confidentiality is a continuous ethical obligation for nurses (Mccullough & Schell-Chaple, 2013). Data storage for the audits will not have any identifiable patient information apart from the room number and if the patient is a surgical patient. This information will be kept in a binder, and when not in use, will be locked in the unit clerk desk drawer. This will ensure that patient information will be secure, and the integrity of the project will be intact.

Rewarding of task completion will be performed to encourage participation. The nurse or aide that has the highest mobility rate each week will win a prize, which will be provided by the project lead. Any ties will be placed into a drawing to maintain fairness.

IRB determination forms will be submitted per Touro University Nevada policy. It is likely that this project will fall under a quality improvement project, which will not require IRB review. The project is not research or trial based, and is instead a nursing improvement project requested by a physician group; as such, should not require site IRB approval.

Plan for Analysis/Evaluation

To determine the statistical analysis needed to measure if an increase in patient mobilizations has occurred following the implementation of the EPMP, a null hypothesis will be developed using distribution of mobilization rates of surgical patients before the implementation of the EPMP. A similar distribution will need to be made for surgical patients after the protocol is implemented. Data has been collected through chart audits regarding rates of mobilization of surgical patients before the upcoming implementation of a facility-based mobility protocol. Chart

audit data analysis will enable the generation of a before and after implementation group. Statistical methods will be used to compare the difference in the median number of mobilizations for each patient per day. Number of mobilizations per day will be a singular value that will be assigned to each selected surgical patient regardless of their duration of stay. To do this, the number of times the surgical patient was mobilized fifty feet each day will be averaged beginning with day zero postoperatively.

Two separate samples will be generated by randomly selecting fifty surgical patients three months before the implementation of the protocol (before group) and fifty surgical patients within the three months following the implementation of the protocol (after group). A selection exclusion criteria will be determined to increase the appropriateness of each patient to their sample. Exclusion criteria will rule out patients in the before and after group based on reason for stay, as the patient must be a surgical patient that was admitted for a needed surgical intervention. A distribution can be generated through SPSS software for the before group and the after group that displays a histogram of the each group's rate of mobilization with measures of central tendency including mean, median, and mode.

Next, the statement(s) that are trying to be disproved, rationalized, or otherwise generated evidence for, will be formulated. These can be done in two simple stages. Firstly, the median rate of mobilization for the after group (MdA) will NOT be statistically significantly different in comparison to the median of the before group (MdB). The null hypothesis (Ho), can be expressed as Ho: MdA=MdB. The desired or alternative hypothesis (Ha) can be described as the median rate of mobilization for the after group (MdA) WILL be statistically significantly different in comparison to the median of the before group (MdB). This can be expressed as Ha: MdA≠MdB. The alpha level for significance will be set at 0.05. A Mann Whitney U Test can be utilized to determine a difference in medians between both groups. As opposed to an independent t-test, the

Mann Whitney test will be used, as the values to be measured will predictably be tightly constrained. Outputs for this exam can be generated through SPSS software.

With data collected and histograms with distributions and labeled central tendencies in place for both our before group and our after group, we can now run a Mann Whitney U Test for difference in medians. If our significance level for the Mann Whitney exam is 0.05 or below, we can reject our null hypothesis and state a statistically significant difference in the median rate of mobilization exists after the implementation of the protocol. If the value of this significance level is greater than 0.05, we will know that no such statistically significant difference in the median rates of mobilization was determined through this exam.

Statistical significance showing a positive impact of implementation will be imperative to the overall success of the project. Ultimately, the goal is achievement of 60% mobility at the project site. Statistical significance showing an increase in mobility without the 60% mobility achievement is a potential outcome that would guide further project improvement.

Implications for Nursing

The successful improvement of ambulation rates using the proposed interventions would provide a template for other units and hospitals to utilize this method for their own patients. Additionally, a successful implementation and improvement of mobility scores could encourage similar methodology for other practice changes within similar settings.

Ultimately, the goal of this project is to improve outcomes for surgical patients. Neurosurgical patients primarily electively choose these procedures to improve their quality of life. Specific positive effects of early mobility noted in literature include a reduction of pain, reduced incidence of deep vein thrombosis, reduced fatigue, reduced anxiety and depression, reduced distress, improved patient comfort and satisfaction, improved quality of life and independence, decreased length of stay, improved mortality, and reduced cost of care (Kalisch et al., 2013). These

proven outcomes will benefit surgical patients immensely. This project will enable floor nurses to improve the quality of care provided, and allow them to collaboratively meet stakeholders' expectations.

Reaching ambulation goals also has the potential to encourage a higher volume of neurosurgeries. Currently, neurosurgeons electively operate Monday through Friday. Increased demand for elective neurosurgeries gained from positive outcomes could result in higher volumes of surgeries and weekend surgery cases. This would have a significant positive financial impact not only for the surgeons, but also for the whole organization.

Analysis of Results

The Mann-Whitney U exam was conducted using a random sample of thirty patients after the protocol implementation and thirty patients before the protocol implementation. Smaller sample sizes were used to accommodate for a lower-than-usual number of surgical patients during holiday months and an increase in ICU transfers, legal hold/psyche patients, medical patients, and observation patients at the project site.

The above exam on observed surgical patients yielded a significance level of $p=0.039$ or $p<0.05$ for the Mann-Whitney U exam. The significance level (<0.05) showed a statistically significant difference in the measure of central tendency for each group. After the mobility protocol implementation, the median rate of mobilization was four times a day while median rate of mobilization before the protocol implementation was three times a day.

For the group after implementation of the mobility protocol, 92.86% met their mobility goal on post-op day #0 and 90.00% met their mobility goal after post-op day #0. For the group before implementation of the mobility protocol, 62.07% met their mobility goal on post-op day #0 and 80.00% met their mobility goal after post-op day #0.

In summary, the Mann-Whitney U exam revealed a notably significant difference ($p<0.05$) in the measure of central tendency for mobilizations per day for surgical patients before the protocol implementation (N=30, Md=3.00) and surgical patients after the implementation of the mobility protocol (N=30, Md=4.00), U=314.000, z=-2.062, r=0.266 (outputs and graph for the stated exam are located in Appendix F).

Discussion

Statistical analysis revealed that the EPMP had a positive impact on postoperative neurosurgical patients' mobility rate at the project site. The combination of the protocol implementation and enhanced education and training provided frontline staff with the necessary tools to improve patient mobility rate. The new knowledge encouraged them to provide the highest quality care to their patients through progressive mobility. Weekly prize drawings created healthy competition within the team, and served as a form of motivation. Daily recognition during huddle also helped to encourage staff members' efforts.

The original project question was to verify if the implementation of an EPMP would improve patient mobility from 35% to 65%. The mobility rate of post-op day #0 improved from 62.07% to 92.86% through a random sample of 30 patients. Post-op day #0 and beyond improved from 80% to 90% after implementation. These results met and exceeded objectives set forth at the beginning of the project and definitively answered the project question. The results surpassed expectations established by the project lead, and these findings align directly with literature, demonstrating that a nurse driven protocol is the hallmark way to improve mobility. Sustainability of the project was cemented by the creation of a mobility audit form that can be utilized by leadership staff to track ongoing mobility efforts.

Implications for Nursing

Nursing staff frequently underutilizes mobility within the post-surgical population. There

are challenges with patient mobility such as time constraints and patients' unwillingness to participate that can be barriers to mobilization. The research robustly shows the unparalleled benefits of early ambulation after surgery. Nurse education highlighting these benefits is imperative to improving mobility rates within the post-surgical population. This project provided a standardized protocol and additional education to equip nurses and aid in achieving mobility goals with their patients. There are limitations in generalizing the protocol due to specialization for the neurosurgical population; however, a similar approach may be valuable for comparable settings in patterning their own future implementation plans.

Limitations

Limitations of note include limited timeframe, lack of long-term impact analysis, project design, sample size, and the impact of float staff. Due to time constraints, the duration of the project was only a 6-week period. Additional time would have allowed a larger data set to better analyze the effectiveness of the mobility protocol. The long-term impact of the mobilization project has yet to be established. Project sustainability could be studied at different periods of time to determine long-term performance of the EPMP.

The quality improvement project design makes generalizability difficult. While the project flourished in the neurosurgical environment, it might need to be adjusted slightly to deliver similar results on other surgical floors. The success within the specific population does not necessarily guarantee success in other applications.

A small surgical patient sample size of 30 patients was necessitated due to project implementation during the holiday season. The surgical patient census was lower than projected. There was an unanticipated increase in ICU transfers, legal hold/psychiatric patients, and medical patients at the project site. The initial expected sample size of 50 patients was not realistic due to the low surgical population.

A final limitation for the project involved float staff. Ideally, during project implementation the floor would be staffed with all core staff. Inevitably, core staff called in sick, which required float staff supplementation on some days. The importance of mobility was explained when the floats arrived, and they were provided with the mobility protocol and expectations; however, they were not vested equivalently as the core staff members. This lowered patient mobility on days with decreased core staffing.

Dissemination

The results of the project will be disseminated through several different modalities. The final results of the project will be announced by the team lead during the March team meeting. A PowerPoint presentation will be utilized to display results and outcomes to the front line staff. Currently, the abstract has been submitted for inclusion for Touro University Nevada spring research day. Additionally, the abstract was submitted for a poster presentation at the National Conference of Nurse Practioners 2020 Spring conference. The poster will also be presented during the future nurse's week conference locally. The project will be posted to the doctorsofnursingpractice.org project repository. Finally, an appropriate nursing journal is being determined by the project lead and nursing faculty in order to submit the project manuscript.

Project Sustainability

With the mobility protocol in place and enhanced staff education, the project will be sustainable. Upon completion of the project, the unit clerks will be trained on how to audit mobility on a weekly basis. The tools created will enable them to continue completing the audits after the project phase is complete. A mobility committee chair representative will be established. This individual can continue to deliver tips and updates during huddle and team meetings. Having a solid succession plan makes the project sustainable, and mobility will continue to be a strong part of floor culture.

With the success of the EPMP, the project site has made the decision to fully adopt the program permanently. In the future, the project lead plans to present the results throughout the entire medical module at the organization. This way, module-wide acceptance of the protocol can be recognized and obtained.

Conclusion

Patient mobilization is an underutilized nursing intervention to prevent complications with the post-surgical population. With first documented achievements during World War II, and the continued beneficial outcomes, the impact of early mobility is unparalleled. Through the implementation of an EPM, patient mobility increased dramatically for the neurosurgical population within an urban hospital. Frontline staff was encouraged and motivated to make mobility part of their routine and culture. Not only did they meet the expectations, they exceeded goals set by the project lead. Mobilization has become a sustainable part of the unit culture and will continue to benefit the neurosurgery patient population within the project site hospital.

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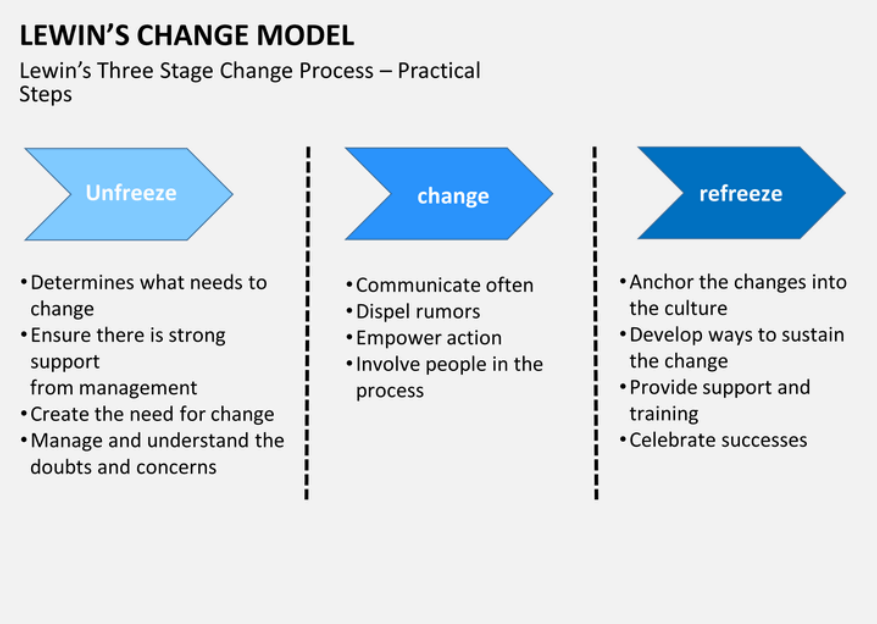
Appendix A


LEWIN'S CHANGE MODEL
Lewin's Three Stage Change Process – Practical Steps
Unfreeze
change
refreeze
• Determines what needs to change
• Ensure there is strong support from management
• Create the need for change
• Manage and understand the doubts and concerns
• Communicate often
• Dispel rumors
• Empower action
• Involve people in the process
• Anchor the changes into the culture
• Develop ways to sustain the change
• Provide support and training
• Celebrate successes

Appendix B

Early Progressive Mobility Protocol

Indications:
Increase functional status of hospitalized post-surgical patients through early progressive mobility in order to reduce costs, length of stay, rates of infection, and help with pain management

Inclusion criteria:
All patients without mobility restrictions will be included

Exclusion criteria:
Patients who are on bed rest

Goal:
-Have post surgical patients ambulate 50 feet the day of surgery, and at least 50 feet three times daily thereafter
-Have patients wean off IV pain meds and transition to PO pain meds within 24 hours
-Dayshift will complete 2 walks on their shift, and night shift will complete 1 walk
-Walks will be completed between the RN/aid team
-Mobilization will need to be charted appropriately in the ADL screen for each walk
-Audits will be completed on a weekly basis to verify proper charting including 1 walk of 50 feet POD 0, and 3 walks of at least 50 feet POD 1 and beyond.

Mobilization Chart

POD 0	50 feet
POD 1 and beyond	At least 50 feet x3

Appendix C

Early Progressive Mobility

DNP 763
Touro University Nevada
Brandon Lowe

Patient mobility

- Current literature supports early ambulation as the most significant nursing measure to prevent complications during the postoperative period
- National guidelines by the Agency for Healthcare Research and Quality (AHRQ) show mobilization reduces medical complications and decreases length of stay

(AHRQ, 2017) (Lewis, Heitkemper, & Dirksen, 2004)

Current Efforts

- A random mobility audit on the floor revealed that we are only at 35% compliance towards our mobility goal

Barriers identified by staff

- Insufficient time to perform patient care
- Confusion with documentation
- Occurrences of mobilization refusal

What does EBP suggest to improve mobility?

- A series of studies conducted with surgical populations determine early mobilization protocols reduced the rate of complications (e.g. respiratory decomposition/ pneumonias, DVT's/PE, UTI's, along with average length of stay
- Another study found early goal-directed mobilization to be feasible, and reduced length of stay as a result of active involvement by nursing
- With the positive benefits and money saved from further complications, early mobilization should be a vital standard of care.

(Epstein, 2014), (Alugubelli, Al-Ani, Needham, & Parker, 2017)
(Hunter, Johnson, & Constasse, 2014)

Project question

- Will neurosurgery patient mobility increase from 35% to 60% over a six-week period through the implementation of an early progressive mobility protocol?

Project Objectives

- Develop an evidence based EPMP designed to meet the needs of postoperative neurosurgery patients at the project site
- Implement an EPMP at the project site in the timeframe of the DNP project
- Provide multidisciplinary staff education and training for the EPMP prior to implementation of project
- Improve mobility rates from 35% to 60% through the implementation of an EPMP
- Develop a system for monitoring ongoing mobility efforts through EMR audits

Evidence-based EPMP results

- Improved functional status
- Reduced infection rates
- Reduced pain
- Decreased length of stay
- Decreased morbidities
- Overall reduction of costs

(Kalisch, Lee, & Dabney, 2013)

EPMP for Neurosurgery

- **Indications:**

Increase functional status of hospitalized post-surgical patients through early progressive mobility in order to reduce costs, length of stay, rates of infection, and help with pain management

- **Inclusion criteria:**

All patients without mobility restrictions will be included

- **Exclusion criteria:**

Patients who are on bed rest

EPMP Continued

- **Goal:**
- Have post surgical patients ambulate 50 feet the day of surgery, and at least 50 feet three times daily thereafter
- Have patients wean off IV pain meds and transition to PO pain meds within 24 hours
- Dayshift will complete 2 walks on their shift, and night shift will complete 1 walk
- Walks will be completed between the RN/CNA team
- Mobilization will need to be charted appropriately in the ADL screen for each walk
- Audits will be completed on a weekly basis to verify proper charting including 1 walk of 50 feet POD 0, and 3 walks of at least 50 feet POD 1 and beyond.

Project start date

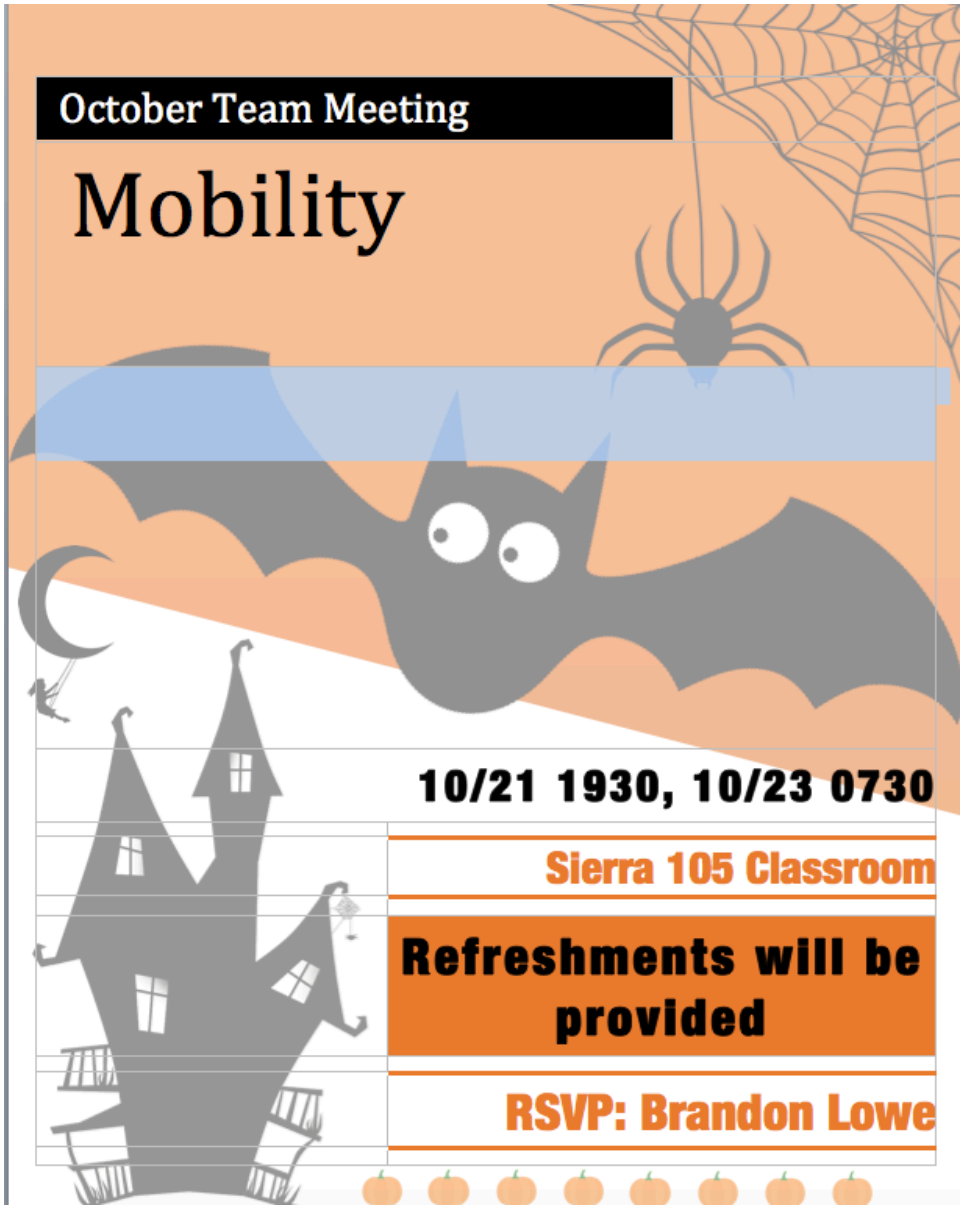
- Week of October 23rd- December 3rd
- Random audits will be completed to ensure proper documentation on a weekly basis
- The RN/CNA that has the highest mobility rate from the audit will receive a prize

Goals

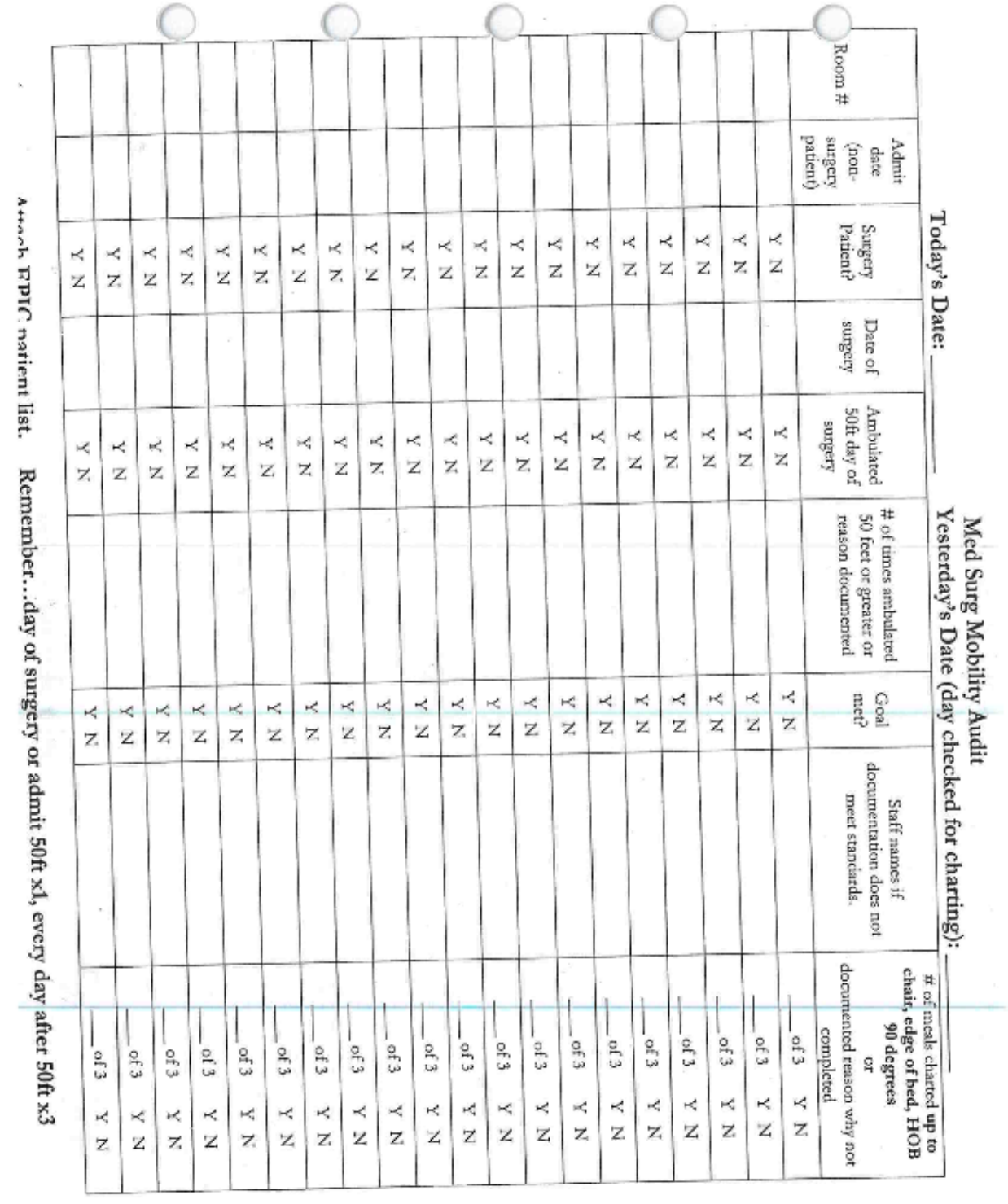
- Improve mobility compliance to 60%
- Enhance outcomes for surgical patients
- Make mobility fun

WE CAN DO IT!!!!!!

Appendix D


October Team Meeting
Mobility
10/21 1930, 10/23 0730
Sierra 105 Classroom
Refreshments will be provided
RSVP: Brandon Lowe

Appendix E



Med Surg Mobility Audit

Today's Date: _____ Yesterday's Date (day checked for charting): _____

Room #	Admit date (non-surgery patient)	Surgery Patient?	Date of surgery	Ambulated 50ft day of surgery	# of times ambulated 50 feet or greater or reason documented	Goal met?	Staff names if documentation does not meet standards.	# of meals charted **up to chair, edge of bed, HOB 90 degrees** or documented reason why not completed
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N

Attach EPIC patient list. **Remember…day of surgery or admit 50ft x1, every day after 50ft x3**

Med Surg Mobility Audit

Room #	Admit date (non-surgery patient)	Surgery Patient?	Date of surgery	Ambulated 50ft day of surgery	# of times ambulated 50 feet or greater or reason documented	Goal met?	Staff names if documentation does not meet standards.	# of meals charted **up to chair, edge of bed, HOB 90 degrees** or documented reason why not completed
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N
		Y N		Y N		Y N		___ of 3 Y N

All patients: _____ (# of yes)/_____ (total # of patients)= _____%

Surgery patients: _____ (# of yes)/_____ (total # of surgery patients)= _____%

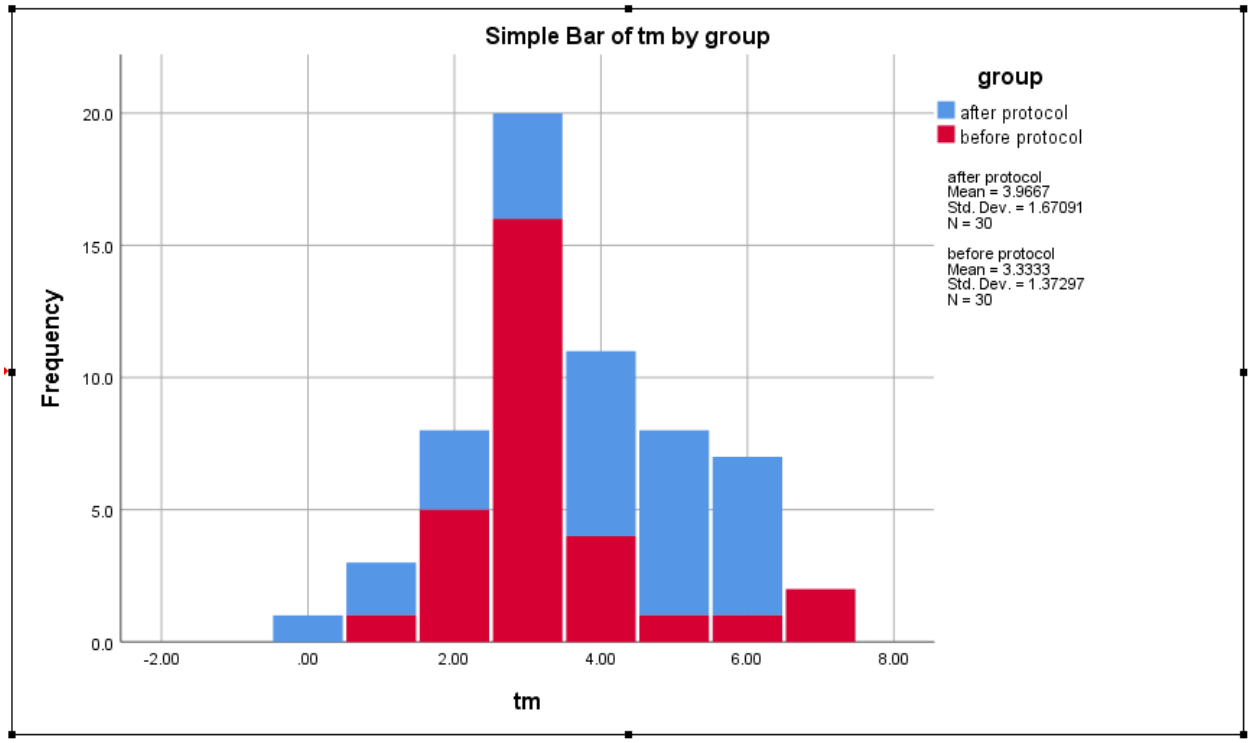
Post-Op Day 0: _____ (# of yes)/_____ (total # of surgery patients)= _____%

Meals: _____ (# of meals up)/_____ (total # of meals)= _____%

Attach EPIC patient list. Remember…day of surgery or admit 50ft x1, every day after 50ft x3

Appendix F

GGraph



Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
tm * group	60	100.0%	0	0.0%	60	100.0%

Report

tm

group	Mean	N	Std. Deviation	Median	Minimum	Maximum	Range
after protocol	3.9667	30	1.67091	4.0000	.00	6.00	6.00
before protocol	3.3333	30	1.37297	3.0000	1.00	7.00	6.00
Total	3.6500	60	1.54947	3.0000	.00	7.00	7.00

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
tm	60	3.6500	1.54947	.00	7.00
group	60	1.5000	.50422	1.00	2.00

Mann-Whitney Test

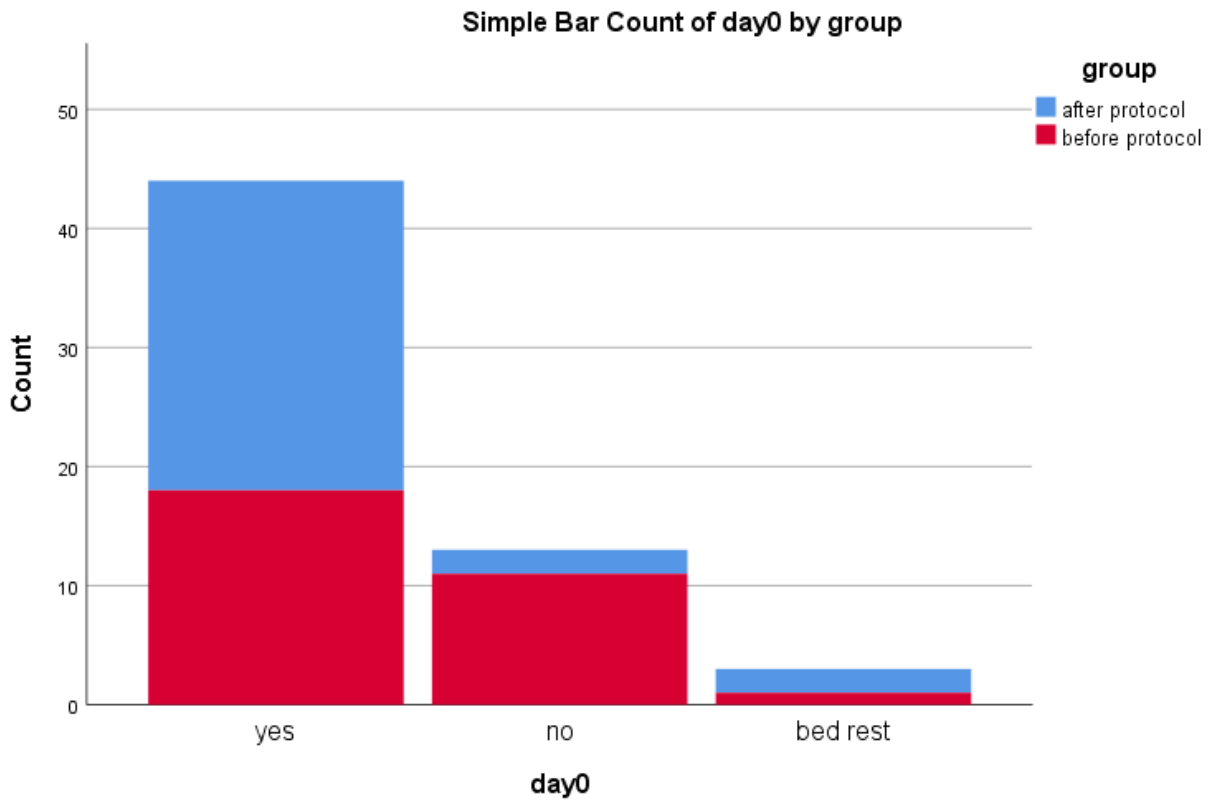
Ranks

	group	N	Mean Rank	Sum of Ranks
tm	after protocol	30	35.03	1051.00
	before protocol	30	25.97	779.00
	Total	60		

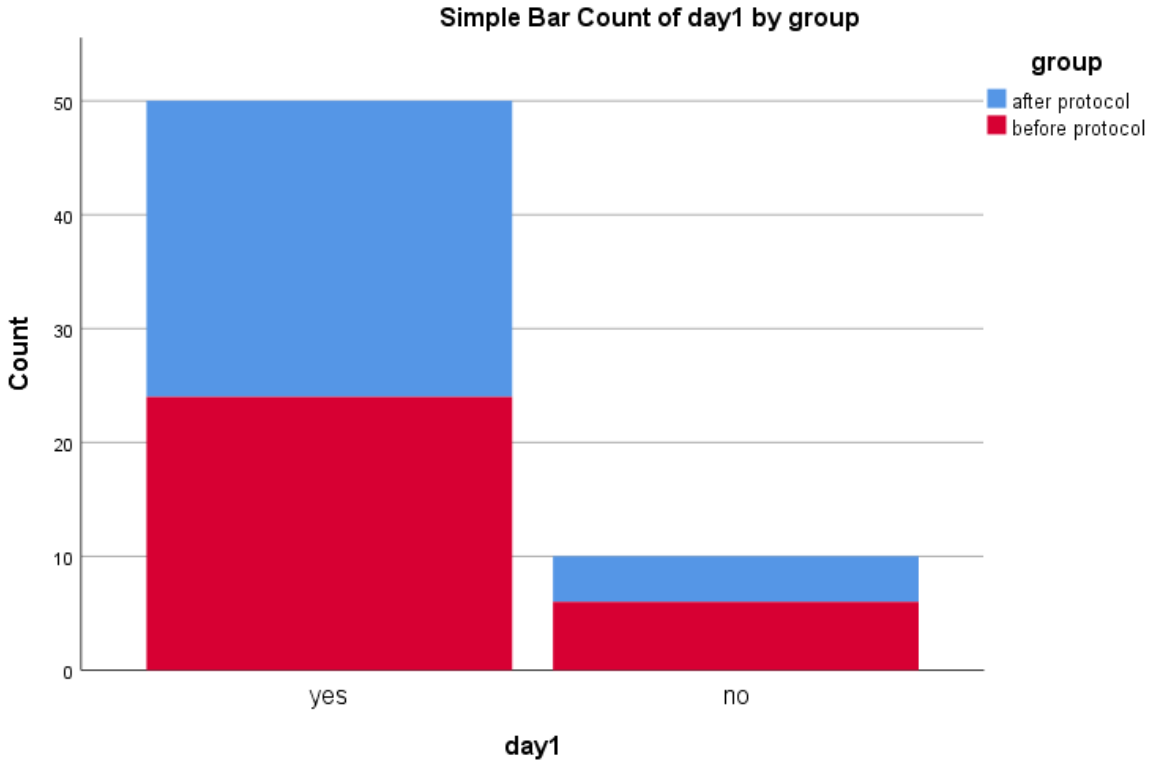
Test Statistics[a]

	tm
Mann-Whitney U	314.000
Wilcoxon W	779.000
Z	-2.062
Asymp. Sig. (2-tailed)	.039

a. Grouping Variable: group



Above graph represents the number of patients that met or did not meet desired number of mobilizations on post-op day #0 as well as occurrences of bed rest patients (after: 26/28 met standard with 2 on bed rest, before: 18/29 met standard with 1 on bedrest)



Above graph represents the number of patients that met or did not meet the desired number of mobilizations on post-op day #1 (after: 27/30 met standard, before: 24/30 met standard).