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:
The EPMP described that patients will 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 mobility protocol versus before the implementation of the mobility protocol (P=0.039 or P<0.05). Patient mobility on post op day #0 increased by 30.79%, while mobility beyond post op day #0 increased by 10% after the implementation of the mobility protocol.

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.

Background

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.

During a quarterly module meeting, stakeholders found that the mobility rate for a neurosurgical patient population was at a mere 35%. 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.

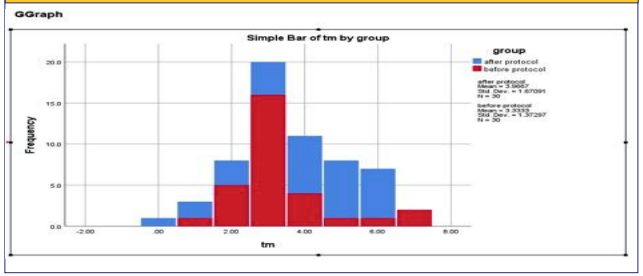
Methods

From October 23, 2019 to December 3, 2019 patient mobility was tracked in a 29 bed neurosurgical unit. Multiple tools were utilized during project realization. An evidenced-based EPMP was developed and approved for use at project site by project lead. A PowerPoint presentation containing education surrounding mobility benefits for frontline staff was introduced as well as current efforts. This was presented to both day and night shifts, and allowed staff to voice barriers. A mobility audit form was created to track weekly mobility compliance, and to identify areas of improvement. Mobility data was obtained from the EMR under the Activities of Daily Living (ADL) section. If a patient successfully ambulated 50 feet the day of their surgery, it was considered a successful ambulation. Lack of ambulation and too short of ambulation distances were counted as failed attempts. After the first day of surgery, patients needed to ambulate at least 50 feet three times a day. This had to be charted appropriately in the EMR. Three separate walks were to be documented within a 24 period, each totaling at least 50 feet. If these measurements were not within the correct frequency or distance parameters, the mobility was scored as a fail. The day was measured from 0000 and ended at 2359 (military time). Successful mobility was divided by total eligible surgical patients to calculate an ambulation percentage. Instruction was reinforced with each individual staff member during one on ones and successes were celebrated during daily huddles. Weekly prizes were awarded to top performers. A random sample of 30 surgical patients was then compared before and after protocol implementation using SPSS statistical software.

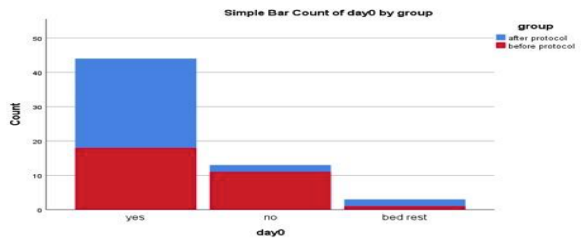
Summary of Data

Graph A represents the mean number of ambulation efforts and frequency both pre and post protocol. Graph B 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). Graph C 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).

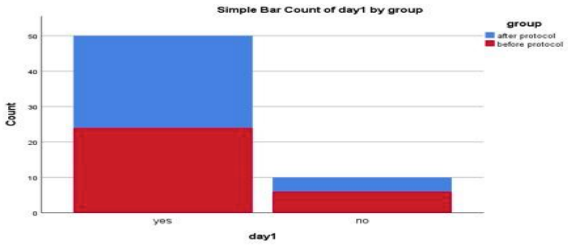
a. Mean Mobilization



b. Mobility POD #0



c. Mobility POD #1



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. 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.

Discussion / Conclusion

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.

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 EPMP, 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.

Acknowledgments / References

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