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Improving Mobility in Acute Care Patients with a Mobility Technician: A Quality Improvement Pilot Project

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ABSTRACT

Background: Early mobilization during hospitalization remains an important element in the patient's recovery and is associated with good clinical outcomes. Despite these benefits, nurses and physical therapists experience challenges from time constraints and competing responsibilities. Mobility technicians present an alternative for safe and early patient mobilization during hospitalization.

Methods: The purpose of this quality improvement project was to implement a mobility technician program to improve patients' mobility during their hospital stay. The setting was a medical-surgical nursing unit of a hospital in South Florida. A protocol was implemented in December 2023. Patients who met the criteria for ambulation using the Bedside Mobility Assessment Tool (BMAT) score were referred to the mobility technician for assistance with ambulation.

Results: Since the implementation of this pilot project, 320 patients have ambulated with the mobility technician during their hospital stay. Fifty percent were males, 88% had medical (not postoperative) status, and 89% had a BMAT score of 4. Many of the patients required a gait belt and rolling walker (38%) and were able to ambulate in the hallway with assistance (92%). The distance walked ranged from less than 50 feet (18%) to 500 feet (67%). The mobility technician mobilized an average of 11 patients per day (min = 6, max = 16).

Conclusion: Implementing a mobility technician program increases the opportunity for patients to ambulate early during their hospital stay. The program may contribute to a better patient experience, increased discharge-to-home rates, and decreased hospital length of stay.

Keywords: Quality improvement, mobility technicians, ambulation, nurses

INTRODUCTION

Approximately 34 million patients are admitted to the hospital yearly in the United States (American Hospital Association, 2024). Hospitalized patients may spend up to 95% of their time in bed (Johnson et al., 2023). With prolonged immobilization, hospitalized patients are more likely to experience a decline in functional status (Bergbower et al., 2020). They may also be at increased risk for

complications, including falls, pressure injuries, and hospital-acquired pneumonia (Johnson et al., 2023). Consequently, patients may experience increased needs for rehabilitative care in a skilled nursing facility (SNF) or at home with home health services after discharge (Burke et al., 2021).

Mobilization of patients in the acute care setting requires specialized training when patients may be limited by their

medical condition (Mazzei et al., 2020; Novack et al., 2022). Medical and surgical patients may be connected or attached to medical equipment, including intravenous therapy equipment, oxygen, urinary catheters, or telemetry monitors. They may also be undergoing pharmacological treatment that can impact their mobility status. Therefore, mobilization of hospitalized patients requires special time and preparation, including assessing the patient's status prior to mobilization, equipping the patient to ambulate, coordinating care to ensure that ambulation does not interfere with scheduled procedures, and monitoring the patient during and after ambulation (Novack et al., 2022). The patient cannot be hurried in the process.

Traditionally, nurses, clinical partners, nursing assistants, and physical therapists have played an active role in patients' early mobilization in the acute care setting. Despite the benefits of early mobility assistance from these healthcare providers, they are often constrained by time and competing priorities or responsibilities (Hamilton et al., 2019; Patel et al., 2023). According to the literature, factors that may present barriers to patient mobilization include staffing issues, time constraints, growing patient loads, miscommunication regarding roles, and associated costs (Patel et al., 2023).

Few studies report the implementation of a Mobility Technician (MT) Program as a novel solution to mobilize patients during their hospital stay (Johnson et al., 2023). Observational studies have demonstrated that general mobility interventions, such as ambulation, can prevent adverse events, improve patients' functional status, increase discharge-to-home rates, decrease referrals to SNFs, and decrease hospital length of stay for patients (Johnson et al., 2023; Patel et al., 2023; Novack et al., 2022). Patients can take more steps when supported by a dedicated mobility technician (Hamilton et al., 2019). The literature is lacking in reporting the value of an

MT to help mobilize patients in medical units.

We describe the process of implementing a pilot program to improve patient mobility with the assistance of an MT in a medical-surgical nursing unit of an acute care hospital. Prior to this project, there was no tracking system for the number of patients ambulating on the unit. As such, the ambulation status of patients was unknown. The objective of this project was to improve the mobility of patients during their hospital stay. One aim of this project was for patients to ambulate at least twice daily in the nursing unit. Another aim was to determine the feasibility of integrating the MT role with the nursing staff team.

METHODS

Design, Sample, and Setting

This quality improvement project took place within a 51-bed medical-surgical unit at a not-for-profit, academic advanced tertiary medical center in South Florida with 400 beds.

Overview of the project

A multidisciplinary team convened in December 2023 to identify solutions to improve patient mobility. At the beginning of the project, there was no system in place to capture staff comments or numbers of patients who were not ambulated in the unit. According to Hamilton et al. (2019), nursing staff reported challenges with the mobility of patients in the nursing unit. The process required staff and nurses to ambulate patients twice a day. While shared with physical therapists and clinical partners, the task of ambulating patients may fall to the bottom of the staff's work priorities. This is especially true when nurses have competing priorities, including medication administration, dressing changes, new patient admissions, discharge processes, contacting providers to address orders and results, and patient education.

While physical therapists are involved in ambulating patients during their scheduled physical therapy sessions, the sessions require time to prepare the patient to ambulate. This process is even longer for patients recovering from a joint replacement (Jette et al., 2020). The therapist assesses the patient during the ambulation to help determine equipment needs and resources to discharge the patient home safely. Some patients may not meet the criteria for physical therapy consultation, yet they require assistance with ambulation. In these cases, the nursing staff (nurses and clinical partners) oversee the ambulation of the patients. After reviewing the literature, the team developed an MT role to help facilitate patient ambulation in the nursing unit.

Intervention

An MT was hired to help mobilize patients Mondays through Fridays from 8 a.m. to 5 p.m. The MT was a certified nursing assistant who completed training delivered by physical therapist assistants on ambulating patients in the medical unit. The training took place over one month. The MT was educated on positioning, transfer from bed to chair, ambulation, use of safety equipment, and consulting with the nurse for clearance to get the patient to ambulate in the room and the nursing unit. Other areas addressed during training included ambulation with gait belts, walkers, canes, and intravenous poles. Education also included determining the distance to walk depending on the patient's condition. Furthermore, the MT was instructed to monitor the patient's breathing rate and pattern for ease or difficulty. The physical therapy staff taught the MT the distance for patients to walk and how to chart the number of feet walked by the patient on the medical record. For the success of the MT role, it was vital to train the MT to ambulate patients who may be attached to equipment and utilize the information relayed by the nurses to engage patients in ambulation.

A process was implemented that required nurses to assess the patient's mobility at the bedside once a shift. To get a patient out of bed, the nurse would assess them using the Bedside Mobility Assessment Tool (BMAT; Boynton et al., 2020) to determine their mobility level and the equipment needed to mobilize them. The BMAT is a reliable, evidence-based tool that helps identify patient mobility function deficits and guides healthcare personnel in selecting equipment to handle and mobilize patients safely. The tool empowers caregivers to assess mobility levels in "safe mode," coordinate strategies for strengthening, and target the right equipment to advance patient mobility. Based on the tool, there are four levels of mobility. At level 4, the patient can march in place, advance step, and return with one foot and then the other. This is a precursor to ambulation.

The MT ambulated patients who met the following inclusion criteria: (1) aged 18 years or older, (2) admitted to the medical nursing unit, (3) had an order for "out of bed as tolerated," and (4) had clearance from the primary nurse to ambulate with the MT during the scheduled shift.

Nurses were required to assess and document the patients' mobility statuses using the BMAT every shift. After completing the BMAT assessment, the nurse determined the type of equipment the patient would have (IV pole, telemetry, sequential compression device, etc.) before moving the patient. The nurses' BMAT assessment scores allowed the MT to determine which patients could be ambulated. The MT received a printout of the latest BMAT scores for all patients in the nursing unit at the start of the morning shift. Then, the MT would communicate with the nurses to initiate the ambulation of patients. For safe ambulation, the MT would confer with the nurse on the patient's physical capabilities to determine how much walking distance would be covered. Once the MT re-

ceived clearance from the nurse, she would initiate ambulation with the patient.

The MT introduced herself to the patient, indicating she was there to assist with ambulation. Then, the MT would assist the patient to the edge of the bed, to the chair, or outside the room in the nursing unit. The entire sequence of events before walking could take 10 to 15 minutes, depending on the patient's condition. Ambulation of the patient would take between 5 to 10 minutes or more, depending on the patient's pace, as they ambulated once or twice around the nursing unit. The goals were for the patient to ambulate at least twice daily and to ensure safe ambulation. After ambulation, the MT returned the patient to the room, placed the patient in the chair or bed, ensured the call bell was within reach, and activated the chair or bed alarms as applicable.

Outcomes

The primary outcome of this project was to increase mobility for patients admitted to the nursing unit. A secondary outcome was for patients to ambulate at least twice daily in the nursing unit.

Data Collection and Analysis

Data on the outcome measures were collected electronically over two months after implementing the initiative. The MT was charged with collecting data from each patient who was mobilized. The data included: date of ambulation, start and completion time, gender, medical status (postoperative or medical), initial location in the patient's room (chair vs. bed), medical device (gait belt, rolling walker, intravenous pole), ambulation location (room vs. hallway), BMAT score, number of feet walked, and frequency walked. Descriptive statistics were used to analyze the data for this quality improvement project. The data were summarized using means and percentages.

RESULTS

Since the implementation of this pilot project, 320 patients have ambulated with help from the MT. Fifty percent of the patients were males, 88% had medical status (not postoperative status), and 89% had a BMAT score of 4. The most common location prior to ambulation was the patient's medical bed (74%). Many of the patients were connected to medical equipment, including intravenous poles ($n = 51$, 50%), urinary drainage catheters ($n = 15$, 5%), oxygen ($n = 9$, 3%), and telemetry monitors ($n = 4$, 2%). The patients were able to ambulate with MT assistance while using assistive devices such as the gait belt and rolling walker. These results are presented in Table 1.

The majority of patients required the gait belt to ambulate ($n = 296$, 93%). Less than half of the patients required both the gait belt and rolling walker (38%). Most patients ambulated in the hallway with MT assistance (92%). These results are presented in Table 2. The distance patients walked ranged from less than 50 feet (18%) to 500 feet (67%), with the latter representing the equivalent of one lap around the nursing unit. Six patients completed 3–4 laps around the nursing unit. Ten percent of the patients were able to ambulate around the nursing unit twice ($n = 33$). The MT mobilized an average of 11 patients per day (min = 6, max = 16). The duration of the walks ranged from less than 1 minute to 20 minutes.

Patients reported a positive experience during the walk, especially when they engaged in talking while walking with the MT. They also reported a positive experience from mobilizing with the MT. They liked that someone was getting them up and helping them mobilize around the nursing unit. They did not feel locked in their rooms. During patient leadership rounds, some patients asked the nurse manager or leader, "When can I be walked again?" suggesting they were seeking this opportunity to be out of their room to ambulate and interact with others. Nurses also reported that they

Table 1*Descriptive Results of Participants (N = 320)*

Description	Frequency (n, %)
Gender	
Male	160 (50)
Female	160 (50)
Status	
Postoperative	37 (12)
Medical	281 (88)
Location prior to ambulation	
Bed	229 (72)
Chair	79 (25)
Devices used	
One device	
Gait belt only	106 (33)
Intravenous Pole	4 (1)
Rolling walker	6 (2)
Two devices	
Gait belt & rolling walker	122 (38)
Gait belt & IV Pole	22 (7)
Gait belt & oxygen	4 (1)
Gait belt & urinary catheter	1 (< 1)
Rolling walker & urinary catheter	1 (< 1)
Rolling walker & IV Pole	5 (2)
Three Devices or more	
Gait belt, Rolling Walker, & IV Pole	19 (6)
Gait belt, Rolling Walker, & Foley catheter	10 (3)
Gait belt, rolling walker, & telemetry monitor	4 (1)
Rolling walker, Gait belt, & oxygen	5 (2)
Four Devices	
Gait belt, rolling walker, oxygen, & urinary catheter	2 (< 1)
Gait belt, rolling walker, IV pole, & urinary catheter	1 (< 1)

Note. IV = Intravenous pole.

Table 2

Descriptive Results of Participant Ambulation with MT (N = 320)

Description	Frequency
Site of Ambulation, (n, %)	
Room	21 (7)
Hallway	293 (92)
Missing	4 (1)
BMAT Score, (n, %)	
4	286(89)
3	27 (8)
2	4 (1)
1	1(< 1)
Distance feet walked, (n, %)	
500 ft once	175 (55)
500 ft (unit x2)	33 (10)
500 ft x 3 – 4	6 (2)
250 ft or less	
250 ft (unit x1)	40 (13)
250 ft x 2	3 (1)
200 ft	2 (< 1)
200 ft x 2	1 (< 1)
< 50 feet	58 (18)
Number of patients per day	
Mean, (SD)	11 (1.6)
Min, max number of patients	6,16
Min, max minutes walked	< 1min, 20

liked that the MT would ask about their patients and get them up and walking. The project was successful in mobilizing patients. There was no documentation of patients ambulating before implementing this project, and now, 10–16 patients are ambulating daily in the nursing unit.

DISCUSSION

As a result of this pilot project, a total of 320 patients were able to ambulate with MT assistance during the two months of the project's duration. One of the goals of this project was for patients to ambulate twice a day in the nursing unit. In this project, 10% of the patients were

able to meet this goal. Further investigation is warranted to determine the factors that prevented other patients from achieving this goal. These are important findings, especially in settings where patients are expected to be discharged in 2 to 3 days (Johnson et al., 2023; Mazzei et al., 2020; Novack et al., 2022).

The implementation of this pilot was feasible due to the interprofessional collaboration between nursing department leaders, nurses, clinical partners, and physical therapists. Stakeholder engagement was another important factor that contributed to the success of this project. Nurses communicated with the MT, relaying vital information relevant

to the patient's ambulation. The results showed successful utilization and integration of the MT role within the nursing team. The MT role contributed to patients' ability to ambulate with assistance despite the limitations they experienced with medical equipment attached. Ambulation of patients is an important element in preventing further decline in functional status and deconditioning during their hospital stay. Ambulation also helps improve patient experience (Johnson et al., 2021). Mobility remains a modifiable factor that nurses and other healthcare providers can leverage and use to contribute to patients' early recovery (Johnson et al., 2023).

Strengths and limitations

A strength of this project was the nurses' utilization of the BMAT tool to anticipate patients' needs for additional equipment prior to ambulation. The nurses communicated this information to the MT, which was an important part of the process. This project's findings suggest opportunities for additional supportive roles in the healthcare team. The MT role can improve patient outcomes as patients increase their ambulation within the nursing unit.

The limitations of this project are related to the sample size and unique setting. The project's findings may not be generalizable to other medical units or healthcare organizations. Further studies are needed to establish the appropriate step goal for patients and to investigate the effect of assisted mobility on hospital outcomes (Hamilton et al., 2019). The literature on implementing nursing assessment of eligibility for ambulation with MT assistance is scarce. Future plans include expanding this project to evening shifts, especially since patients have expressed wanting to ambulate after dinner. Additionally, we are trialing a sign that displays the patient's BMAT Score outside of their room. The sign can help ensure patient safety by notifying everyone on the team of the patient's BMAT score and their required mobility

equipment.

Recommendations for Practice

Integrating the MT role provides an opportunity to collaboratively support the mobility of patients recovering in the nursing unit. To improve patient mobility, the nurses must complete the BMAT tool during their initial assessment. This allows the MT to determine which patients can ambulate and how to mobilize them safely. Communication between the nurse and the MT is crucial to the success of this program.

CONCLUSION

We described the implementation of a quality improvement project to increase patients' mobility in a medical unit using an MT role. This project was successful due to the interdisciplinary collaboration of the nursing staff with the physical therapy department and the communication between the nurses and the MT to support patient mobilization. Early mobilization of patients can lead to several benefits, including decreased length of stay and reduced complications for patients in acute care settings. The MT presents a novel role that can contribute to positive patient outcomes and support other healthcare providers.

DECLARATION OF INTEREST

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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