

**Evaluating Early Mobility for Patients Admitted to a Progressive Care Unit**

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## **Abstract**

This paper investigates the implementation of an intervention to improve patient mobility in hospital settings, addressing the lack of standardized recommendations for inpatient exercise and the associated risks of immobility. Retrospective chart reviews from January 1st to January 31st, 2023, at Community Medical Center's Progressive Care Unit (PCU) were conducted to establish a baseline for mobility assessments and activity levels. Findings revealed that while 82.14% of patients had mobility assessments charted, only 27.68% had correlating activity levels documented, falling short of the targeted 75%. The project highlights the importance of accurate charting and the need for nurse education to ensure alignment between assessments and activities. Moving forward, the data collected will serve as a benchmark for assessing the effectiveness of future interventions aimed at improving patient mobility and outcomes in hospital settings.

## Introduction

### Problem Description

Physical activity is a common daily practice for many Americans, and the Centers of Disease Control and Prevention recommends 150 minutes of exercise weekly as a way to prevent disease and maintain health for individuals 19 and older (Centers of Disease Control and Prevention [CDC], 2023). Within the hospital setting there are no standardized recommendations for patient exercise. Medical illness and interventions hinder most patients in the hospital from being able to perform the recommended level of exercise, yet some level of physical mobility is still important for patients while hospitalized. For every day a patient is on bedrest, that person has a decrease in body mass by 1-1.5% (Mbamalu & Lowman, 2021). Patient immobility during hospitalization can propagate disease sequelae such as deep vein thrombosis, as well as muscle decline, which increases risk for falls (Dirkes & Kozlowski, 2019; Yayla & Ozer, 2019). Encouraging and helping patients to get out of bed if able will help prevent further physical deterioration and can decrease late complications upon discharge home (Yayla & Ozer, 2019). Hospital care constitutes over 30% of healthcare expenditure in the US (Oregon Health Authority [OHA] et al., 2018). Leaving patients without adequate mobility during a hospital encounter increases the risk of negative effects from hospitalization and therefore the risk of increased expenses for the patient and hospital.

Currently, there is no set of recommendations or protocols that serve as a guideline for inpatient ambulation or mobility. Different hospitals or units may have individualized policies, but no set guidelines were found in a literature search. This lack of uniformity within guidelines may be due to the vast array of different patient populations that exist in units within the hospital. Improving patient outcomes with the utilization of advanced practice registered nurses (APRNs) through early mobility implementation can decrease hospital expenses and increase patient's

wellbeing. Doctorally-prepared APRNs play a crucial role in effecting changes that connect enhanced patient outcomes, such as those from early patient mobility, with broader healthcare system impacts and are vital to improved patient health.

### **Available Knowledge**

Hospitalized patients, across diverse diagnoses, face heightened risks from increased immobility, including deep vein thrombosis, pressure sores, and muscular atrophy (Mbamalu & Lowman, 2021; Yayla & Ozer, 2019). However, evidence suggests that these risks can be mitigated. One recurrent finding within the current literature is that of early mobility leading to decreased length of stay for a patient (Claytor, 2020; Dewitt et al., 2019; Larsen et al., 2019; Rice et al., 2020; Schallom et al., 2020; Vandreuil et al., 2021). Despite this, there is a noticeable gap in implementing consistent mobility programs, especially in progressive care units (PCU), where research is scarce.

Dewitt et al. (2019) conducted a quality improvement project in an inpatient rehabilitation unit, implementing an early mobility plan for selected patients upon admission, resulting in decreased length of stay and fewer patient falls. Similar outcomes were observed in Larsen et al.'s (2019) study on pneumonia patients, highlighting the benefits of early mobility such as decreased length of stay and increased quality of life concerning physical function across varied hospital settings. Hart et al. (2021) proposed initiating early mobility protocols before surgical admission, leading to post-surgical goal-setting, increased ambulation, and reduced length of stay. Patients implementing goal-setting as a technique to promote early mobility is effective, however not always possible outside of the elective surgical setting. Staff education on patient mobilization, as demonstrated in several studies also proved effective in enhancing patient mobility (Dewitt et al., 2019; Hart et al., 2021; Larsen et al., 2019; Marcus et al., 2021),

Staff education demonstrates the importance of participant buy-in, a common and established practice to implement changes on a unit. Marcus et al.'s (2021) study on an oncology unit revealed the impact of structured protocols on patient ambulation, though the frequency and timing of interventions were not specified, possibly contributing to unchanged length of stay.

Variations in patient needs across different populations and diseases might explain the absence of standardized protocols in hospitals. Notably, many of these quality improvement projects are spearheaded by advanced practice registered nurses (APRNs), who are increasingly focusing on system-wide improvements in patient care (Htay & Whitehead, 2021). Decreasing hospital stays not only improves patient outcomes but also reduces healthcare spending, underscoring the vital role APRNs play (Oregon Health Authority [OHA] et al., 2018).

### **Rational**

A retrospective data review was conducted with a set baseline for early mobility to be used as a future benchmark for improvement practices. This project leaned on the structure of the six-sigma improvement methodology. It focused primarily the design, measure, and analysis portions of the six-sigma approach (Institute for Innovation and Improvement, 2017). From a cause-and-effect diagram (see Appendix A), one can observe a lack of uniform practice employed regarding the evaluation and performance of patient mobility. Other factors contributing to the problem were a lack of safe staffing and too few bariatric commodes. In the literature review performed, no specific guidelines were found in terms of what best practice for early mobility on a progressive care unit entails. Having patients up out of bed within 24 hours of admission is how many other units have characterized early mobility. To safely get patients out of bed nurses should evaluate patients at least every shift for mobility readiness. Regular

mobility readiness should be adopted in the unit being evaluated to improve patient outcomes and decrease patient length of stay.

### **Specific Aims**

Between January 1st and January 31st, 2023, 100% of patients at the Community Medical Center will have had a mobility assessment completed every shift, and 75% of patients will have been involved in appropriate early mobility within 24 hours of admission.

### **Methods**

#### **Context**

Community Medical Center (CMC) is a 167-bed hospital that serves individuals from Washington County, the Portland metro area, and the rural Coast Range (At a Glance, n.d.). It's partnership with a large, academic hospital, grants CMC many resources of this larger facility (At a Glance, n.d.). Annually CMC serves nearly 5,000 patients accounting for 27,000 patient days a year (American Hospital Directory, n.d.). The PCU at this medical center is a 19-bed unit that primarily serves geriatric medical patients. It is staffed by both PCU and ICU nurses, as well as nurse aids who help with patient care. Previously on this PCU, it was not a common practice to ambulate patients in the hallways, partially due to the recent COVID-19 pandemic which altered practices and training for new nurses in many ways. It was also a common practice to use bedside commodes or bedpans rather than ambulating patients to the bathrooms located within each room. Getting patients up to a chair or walking outside the room was not a focus of night shift staff. Staffing on night shift commonly had one or two nursing aids for the unit, and on day shift there were typically two to three aids. CMC used a contract with its nurses created by Oregon Nurses Association (ONA) union contract, and nurses on a PCU have been limited to four patients at a time per ONA regulation.

## **Intervention**

In order to understand how well patient mobility was being completed on this PCU, a retrospective chart review was done, reviewing patient mobility assessments and activity. The chart review looked for an alignment between nursing assessment and actual patient mobility performed and documented. Nurses on the PCU chart using the M.O.V.E. criteria (HealthStream, 2023). This criteria consists of a mobility assessment once-a-shift based on multiple components, including myocardial stability and oxygen needs. Utilizing the M.O.V.E criteria nursing staff have a better idea of what a safe level of mobility is for the patient. Charts from January 1st-31st, 2023 were evaluated to establish a baseline assessment and mobility to use for future improvement projects. Established data points within 24 hours of admission regarding assessed mobility and patient activity were extracted from the chart of each patient admitted to the PCU for the set dates. The data was organized in comparison tables to see if patients were physically capable of mobility, and if early mobility was being performed in the PCU. The dates chosen for this chart review are prior to further intervention regarding increasing ambulation on the unit.

## **Study of the Intervention**

The intervention for this project was an evaluation of how the PCU at CMC was assessing and mobilizing patients before other interventions were implemented directly to nursing staff. As this was prior to any interventions, this chart review had minimal effects on nurse action and patient outcomes. Nurses did not know that their charting would be evaluated regarding mobility, and so retrospectively looking at charting did not alter how the charting was done.

**Measures**

Nurse facilitation of mobility was measured by the M.O.V.E. criteria, and patient activity within the first 24 hours of patient admission. No prolonged electronic medical record downtime from January 1st- 31st, 2023 was charted which would have altered the outcomes of this project. A balancing measure that was considered with this project was the number of patient falls during the observed time that occurred due to premature mobility. This was assessed by reviewing patient charts during the first 24 hours after admission for records indicating a patient fall. No patient falls were charted for any of the patients within the 24-hour time frame. Patient charts that were not evaluated were due to a patient not being admitted to the PCU for 24 hours.

**Analysis**

A comparison table in Microsoft Excel was used to evaluate the data. The information found from the chart review can now be used to understand where improvement needs to be made within the microsystem. The information can also help guide how that improvement can be made.

**Ethical Considerations**

Ethical considerations regarding the evaluation of data pulled from nurse charting on the PCU was minimal as the data was retrospective and did not alter patient outcomes. No identifiable patient information was recorded in this project. Data has not been altered from what was recorded from the electronic medical system and was presented objectively. Alterations in data to create the appearance of a depressed baseline in order to potentially inflate future outcome measurements would have been devastating to this quality improvement project. Also to be considered is that there is a lack of uniformity with guidelines for early mobility, and this project was set with assumed beneficial intervention.



## Results

This project set a baseline for mobility assessment and activity charting and will help establish goals for future improvement on a PCU. The data collected in this chart review has not been measured against data previous to this intervention given that it is setting a baseline for future reference. The PCU this project was conducted on aimed to find that 100% of patients had received a mobility readiness assessment and 75% of patients had received corresponding activity within the first 24 hours of admission. Overall, 112 patient charts were reviewed. Initially, data was intended to evaluate not only the reported percentages of mobility assessed and completed but also tie in patient length of stay on the PCU. Length of stay was shown in the previously available knowledge to be a common indicator for the success of early mobility implementation. While length of stay is still relevant information to patient outcomes, what was specifically being measured in this project was nursing staff compliance on assessment and charting. Thus, patient length of stay was not evaluated.

Of the 112 patients admitted to the PCU only 55.36% received early mobility. Early mobility was defined as patients who completed activity at the estimated level of tolerated activity or higher within 24 hours of admission to the unit. For the cases of no mobility assessment being charted with patient activity still completed this was also counted as early mobility. In cases where the activity level was noted as "bedrest" without any mobility assessment recorded, it was not classified as early mobility. However, if a patient failed to meet the M.O.V.E. criteria, "bedrest" was considered an appropriate level of early mobility. If a patient was assessed to be able to tolerate maximum activity (ambulation) but completed a lower level of movement, that was also not considered as early mobility. 27.68% of patient charts showed correlating M.O.V.E. assessments with activity performed. Patients who were assessed

for mobility readiness but then did not receive a correlating level of activity performed was 54.46%. This includes patients who had no activity charted for the first 24 hours after admission. Having no M.O.V.E. assessment or activity performed was not very common, with only 11.61% of patients falling into this category. Only 6.25% of patients had some level of activity charted with no mobility assessment.

## **Discussion**

### **Summary**

Of the data collected and evaluated, patients performing a safe level of activity within the first 24 hours had the most clinical relevance based on findings in the available knowledge. On the PCU where this data was gathered, that was 55.36% of patients. A strength of this project is that in the future after other interventions are initiated on the unit, the data points evaluated for this project can easily be compared to those post-intervention. This will give unit management insight into whether or not their interventions are effective toward their end aims.

### **Interpretation**

The data collected from the patient charts showed that 82.14% of patients had a mobility assessment completed in the time frame assessed. This fell short of original aim which hoped to find 100% patient mobility charted by nursing staff. Only 27.68% of patients had an activity level performed which correlated with the mobility assessment charted. As with overall mobility assessments, correlating assessments and activity did not achieve the goal of 75%. Many patient charts were found to have a description of the activity listed as “activity adjusted per patient tolerance”. This choice unfortunately does not describe actual patient movement performed but rather how the activity was completed. There will need to be further nurse education done as there may be a misunderstanding of staff charting expectations. Emphasizing to nursing staff that

this charting option can be a supplementation to further describe activity rather than replacing the activity performed may increase chart correlation. This finding can help drive interventions for more accurate charting in the future.

Data collected in this project can be useful in several ways for the unit on which it was collected. One way is to assess the effects of future interventions to improve patient mobility assessments and activity performance on the PCU. PCU management can compare current gathered data and eventual findings to drive further improvement. A future intervention could expand to understanding how patient outcomes are changed with interventions. Utilizing charting and data already collected will help understand exactly which changes are altering patient's health. PCU management can find trends in future quality improvement projects to discover what works best to increase patient mobility on their unit.

### **Limitations**

As with any retrospective chart review, there is a limitation on the details collected from the data set. A researcher can only gather information that is as detailed and accurate as what has been charted. Details such as understaffing or events related to different patient assignments are not likely to be reported in the charting. These confounding factors may impact a nurse's ability to provide care to their patients and thus the data they chart. This project is also limited as it reports only a subset of information surrounding patient care and does not report patient length of stay, long-term outcomes, or sequela from a hospital stays. That being said, the aims of this project were very specific. Data gathered is meant to help assess future interventions.

**Conclusion**

The retrospective chart review conducted at Community Medical Center's PCU identified gaps in the documentation of patient mobility assessments and activities, indicating a need for improved nurse charting practices and education. Despite limitations inherent in retrospective studies, such as reliance on available data and potential confounding factors, the findings provide valuable insights for future quality improvement initiatives. By addressing these limitations and leveraging the data collected, clinicians and administration can develop targeted interventions to enhance patient mobility and ultimately improve overall patient outcomes in hospital settings.

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# Appendix A Cause and Effect Diagram

ESSENTIALS TOOLKIT: Cause and Effect Diagram

Before filling out this template, first save the file on your computer. Then open and use that version of the tool. Otherwise, your changes will not be saved.

## Template: Cause and Effect Diagram

Team: Ali Smith Project: Early Ambulation in PCU

- 1) Input the effect you'd like to influence.
- 2) Input categories of causes for the effect (or keep the classic five).
- 3) Input causes within each category.

