A Practical Approach to Mobility in the Intensive Care Unit

Exploring Low Tech, Low Cost, High Compliance, High Reliability Opportunities

Today's critically ill patients are often sicker, heavier, more complex and at risk for the hazards of immobility. Experts explain that the hazards of immobility adversely impact long term recovery from a critical illness. Acute care facilities across the US and globally are seeking innovative practices to address these hazards in a cost-effective manner that yields high worker compliance, and better short and long-term patient outcomes. This White Paper highlights relevant research, and features findings from a pilot study conducted by Covenant Medical Center, a Covenant Health facility, in Lubbock Texas.[1] Covenant Medical Center, a 551 bed regional medical center serves west Texas and eastern New Mexico, and is associated with Lubbock University and Texas Tech University. The pilot offers an understanding of mobility in the ICU through both quantitative (Surveys) and qualitative (Interviews) methodologies. Data is included in this paper where appropriate.

The problem of mobility in the ICU

Jim Scott in the AHRQ document titled: Mobility Lost in the ICU tells the story of a 56-year-old man with a number of comorbid conditions who was admitted to a trauma service after injuries suffered from an assault and battery episode. The patient's injuries included a left shoulder dislocation and a minimally displaced fracture of a thoracic vertebral body.

Shortly after admission, the patient developed altered mental status with increasing hypoxia and requiring mechanical ventilation. This led to a prolonged intensive care unit (ICU) stay.[2] Following 6 weeks of hospitalization, the patient was significantly deconditioned despite slow and steady physical improvements.

One hundred percent of subjects were aware of the relationship between mobility and decreased length of stay.[1]

Experts explain that the sequelae of weakness, reduced aerobic capacity, persistent disability and other hazards of immobility following a stay in the ICU is not uncommon. Yet, evidence suggests that many of these effects are preventable with a customized, executed plan of activity and mobility, which addresses both patient and worker safety. However, without an in-depth understanding of the hazards of immobility, it is difficult to manage these hazards. The nurses who participated in the pilot study at Covenant Medical Center recognized these preventable and predictable consequences of intensive care. In interviews, one hundred percent of subjects (RNs who work in ICU) consistently explained that mobility is key to controlling pneumonia, pressure injury, fall-related injury and more.

"The benefits of mobility outweigh the risks from immobility for many patients in the ICU. These benefits include fewer short- and long-term complications, and reduced length of stay." Subject Four[1]

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Cost as a factor in implementing SPHM programs

Although facilities nationally and across the globe explain that SPHM programs make sense in attacking issues of immobility in the ICU, cost continues to be a factor for many facilities that otherwise would like to implement a SPHM program. In an article published in the Pennsylvania Patient Safety Advisory, authors explain that the most significant potential barrier to the implementation of any SPHM program is financial constraints.[3] Costs for the initial implementation of the program in the featured facility were significant. In order to mitigate the financial impact, the facility acquired equipment incrementally based on priority. The advantage of this plan allows the initial outlay to be spread out over time. However, the issue with this approach is that the amount of equipment purchased may be insufficient. Insufficient equipment quantities resulting in wait times discourages staff compliance with equipment use policies. Phased access can lead to failure to comply with use.

"Early patient mobility in the ICU requires a culture shift that embraces mobilization and collaboration among all members of the team." Subject One[1]

Work flow disruption as a factor in compliance

Reluctance to accept change is another barrier that often surfaces either because of longstanding or established practices or because there is insufficient equipment to consistently practice safe handling. Some staff members explain that it is more efficient in terms of time to simply perform manual transfers, as they have always done. The key to compliance may rest in identifying practices that align with current work flow. For instance, 100 hundred percent of subjects in the pilot at Covenant Medical Center described the value of low tech mobility options that did not disrupt work flow patterns because these practices had been in place for many years. Staff members at Covenant Medical Center rely upon the Human Care Convertible Chair (formerly known as the Barton Chair) in their ICU departments. Features to the Human Care Convertible Chair evolved but clinical application required little adaptation to these updated features. This strategy served to support a culture of mobility that had reportedly been in place for decades.

Grass roots change

Recently facilities that recognize patient and safety issues in the ICU are seeking low cost, low tech high compliance strategies to address mobility issues. The Human Care Convertible Chair has been a mainstay in healthcare and mobility for decades. This category of patient handling equipment has long been part of the ICU workflow at Covenant Medical Center. As more and more nurses recognize the physical risks associated with providing intensive care, many are seeking solutions to improve worker safety. Further, nurses are more fully recognizing the relationship between patient handling modalities and the immobility-related outcomes of care such as fall-related injury and pressure injury. Outcome measures have been instrumental in driving improvements closest to the bedside.

"I tell patients that "The Bed is Not Your Friend." Subject Five[1]

Outcome

Patient and worker outcomes are increasingly common as a result of pressure to achieve excellence status or as part of state or national mandates or accrediting agencies. An outcome indicator provides information that can be used to predict trends based on data. Popular indicators in the SPHM community include workers' compensation data, patient satisfaction, fall-related injuries, and more. Three major categories of indicators are described as leading, lagging and coincidental indicators, the differences between these classifications of indicators rest in the predictions they make.

The importance of a lagging indicator is its ability to confirm that a pattern has occurred. Reduction of patient handling-related workers' compensation claims is one of the most common outcome indicators used to measure a SPHM program. In the world of SPHM, a decrease in lost and restricted workdays due to SPHM worker injury or a reduction in severity of injuries is thought to signify the presence of a sound SPHM program. Conversely, if costs associated with worker injury increase, this assumedly suggests the SPHM program is doing poorly. Although lagging indicators are used to build performance dashboards and are often reported internally and elsewhere, they may not provide all the data necessary to craft a dynamic program.

Leading outcome indicators signal future events. Leading indicators are often overlooked in a world where dashboards and economically driven outcomes are the measurements of choice. Leading outcomes indicators were once referred to as process outcomes. Process outcomes measured those activities that supported the overarching clinical, cost, or satisfaction outcome. In SPHM, a leading indicator could include the following: percent of employees trained on a unit-specific patient handling system, percent of time SPHM tasks are technology assisted or time to mobility. Data collected in the pilot at Covenant Medical Center suggested a high degree of compliance with technology, especially the Human Care Convertible Chair. This technology specifically addressed the early and ongoing mobility needs of patients who required maximum or moderate assistance in mobility. This leading indicator serves to support lagging indicators such as a reduction of the frequency and severity of pressure injury and other immobility-related consequences of care.

A combination of leading and lagging indicators best serves to shape a fiscally responsible and responsive or agile SPHM program with the goal of improving safety performance. This balance of leading and lagging indicators is a way to demonstrate long-range economic outcomes as well as real-time metrics such as meaningful training, availability of technology in good working order, and relevant policies and procedures that align with patient care activities.

Conclusion

Recent science and findings from the pilot suggest that opportunities exist to use new versions of established technology/equipment as a way to reduce disruption of work flow and support the concept of a low cost, low tech, high compliance, and high reliability patient handling environment. An awareness of the hazards of immobility and a culture of mobility serve to improve leading outcome indicators that ultimately impact the lagging indicators, such as reduction of pressure injury.

"We have few cases of pressure injury and we attribute this to using the Human Care Convertible Chair to safely get ICU patients out of bed at least daily." Subject Six[1]

More Reading

Dean E. Mobilizing patients in the ICU: evidence and principles of practice. Acute Care Perspect. 2008;17:1-9.

Thomsen GE, Snow GL, Rodriguez L, Hopkins RO. Patients with respiratory failure increase ambulation after transfer to an intensive care unit where early activity is a priority. Crit Care Med. 2008;36:1119-1124.

Lord RK, Mayhew CR, Korupolu R, Mantheiy EC, Friedman MA, Palmer JB, Needham DM. ICU early physical rehabilitation programs: financial modeling of cost savings. Crit Care Med. 2013;41:717-724.

Needham DM. Mobilizing patients in the intensive care unit: improving neuromuscular weakness and physical function. JAMA. 2008;300:1685-1690.

Needham DM, Korupolu R, Zanni JM, et al. Early physical medicine and rehabilitation for patients with acute respiratory failure: a quality improvement project. Arch Phys Med Rehabil. 2010;91:536-542.
Schweickert WD, Hall J. ICU-acquired weakness. Chest. 2007;131:1541-1549.

Thomsen GE, Snow GL, Rodriguez L, Hopkins RO. Patients with respiratory failure increase ambulation after transfer to an intensive care unit where early activity is a priority. Crit Care Med. 2008;36:1119-1124.

Vollman KN & Bassett R. Transforming the culture: The key to hardwiring early mobility and safe patient handling. American Nurse Today. 2014;9(9):SUPP.

Zanni JM, Needham DM. Promoting early mobility and rehabilitation in the intensive care unit. PT in Motion. 2010;2:32-38.

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[1] Scott J, Roney J, Whitley BE, Dunkle S, Harris C, Gallagher S. An Innovative Approach to Mobility in the Intensive Care Unit: A Pilot Project. Safe Handling and Mobility and Falls National Conference, Glendale AZ. April 10 – 15, 2017.
[2] Scott J. Mobility Lost in the ICU. Accessed February 25, 2017 at: https://psnet.ahrq.gov/webmm/case/251
[3] Implementing a Safe Patient Handling and Movement Program in a Rehabilitation Setting. Pa Patient Saf Advis 2009 Dec;6(4):126-31.