Early and Progressive Mobility: A Program Implementation Strategy for High Acuity Patient Care Locations

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Early and Progressive Mobility: A Program Implementation

Strategy for High Acuity Patient Care Locations

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This Manuscript Partially Fulfills the Requirements for the Doctor of Nursing Practice Program and is Approved by:

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Abstract

Despite an increase in the promotion of early progressive mobility, its decrease in hospital-acquired complications and improvement of patient outcomes, there remains a reluctance in staff commitment to daily evaluation and implementation. This is largely due to the fact nurses or other interprofessional staff are the primary individuals responsible for this change in process. A lack of confidence in staff to correctly identify patients that meet criteria and anxiety regarding the safe transfer or mobilization of patients, particularly in high acuity settings have been identified as major barriers. The PICOT question that guided this program development of a CBO toolkit is: For interprofessional staff in high acuity settings such as an intensive care unit (P), how does established competency-based orientation for early and progressive mobility strategies (I) compared to no structured early and progressive mobility program (C) influence the efficacy of recognition and response prioritization for early and progressive mobility (O)? The evidence recommends that increased attention to staff education, specifically identifying criteria and the use of mobility aids increases commitment to EPM. Using the CDC Program Evaluation framework, the Agency for Healthcare Research and Quality (AHRQ) Nurse-driven early mobility protocol, New York State Partnership for Patients (NYSPFP) progressive mobility program toolkit, and Johns Hopkins Activity and Mobility Promotion (JH-AMP) were analyzed to ensure that these programs met requirements for probable success. Strong emphasis on interprofessional staff education and preparedness is imperative for EPM to be maintained. A toolkit that meets knowledge gaps and validates competency will assist with successful commitment to EPM in high acuity patient care areas.
Early and Progressive Mobility: A Program Implementation

Strategy for High Acuity Patient Care Locations

The mobility of patients in the critical care setting when patients are deemed the most hemodynamically unstable is a development in healthcare that has taken a higher priority in the last decade. Prior to this shift of thought, mobility was designated to the physical therapy department and not considered a nursing priority. A healthcare team, specifically a nursing team with a solid understanding of the importance of early mobilization can improve patient outcomes. Early progressive mobility (EPM) has shown to decrease length of hospital stay and improve mortality and quality of life following discharge (Klein, Bena, Mulkey, & Albert, 2018).

To meet these goals, dedication and attention to this topic has been given to identify programs created on EPM designed to be implemented in various healthcare settings, specifically high acuity areas of patient care. Each program was carefully reviewed and evaluated against the Centers for Disease Control and Prevention (CDC), framework for program evaluation. Utilizing this information, a toolkit was developed which includes a competency-based orientation (CBO) for staff. This CBO consists of identification for appropriateness of EPM, exclusion criteria, and demonstrating proper use of available equipment used to assist with mobilization. This toolkit made use of the most up-to-date evidence-based practice standards identified as crucial for the success of EPM.

Significance of the Practice Problem

In healthcare there remains a strong commitment to “do no harm.” The definition of this statement is fluid and may be interpreted differently by various individuals. At its crux the goal is healthcare will do its best to identify patient needs, not just individually but also by population, and in turn work to create treatments and processes that are feasible, safe, and effective. In a single year greater than 7 million Americans are admitted to a high acuity setting at some point during their hospital stay (Brissie et al., 2017). Admittance to this level of care is often accompanied by the need for ventilator assistance and multiple other invasive lines that allow
for close hemodynamic monitoring. In the past this level of care was associated as being too unstable or that a level of safety could not be obtained in regard to mobility (Brissie et al., 2017).

Research has shown that the longer patients are sedentary the harder it is for them to regain strength and resume normal life activities. Identified complications of decreased mobility – pneumonia, thrombosis, pressure injuries (hospital acquired), and increased length of hospital stay (Booth et al., 2016). Each one slows patient progression toward healing, with them often happening simultaneously (Higgins et al., 2019). Delayed mobility quickly puts the patient at a disadvantage of returning to their regular life. This can result in depression, anxiety, feelings of hopelessness, and may lead to an uptick in aggression toward healthcare providers (Klein, Bena, Mulkey, & Albert, 2018). The inability to return to a normal lifestyle directly impacts patient quality of life which is a primary driving factor for positive outcomes (Negro et al., 2018).

Improving patient outcomes is the ultimate goal of establishing a CBO for EPM. The facility level of significance should be strong. The leaders of the healthcare organization should acknowledge there is a gap in practice in the amount of mobilization patients receive in high acuity settings receive. Strong leaders understand that there must be a willingness to make a change, followed by identification of a catalyst to create movement in that direction. Facilities should be seeking to improve process and care, understanding EPM is best practice, and outcomes are multifaceted including decreasing cost overall (Falkenstein et al., 2020; Higgins et al., 2019). Leadership and management must possess readiness to work closely with the project manager to implement EPM and facilitate process change.

With each change and process alteration cost must be considered to assess feasibility. No set cost has been correlated with exactly how much delayed mobility ends up being for the patient or healthcare system. Several studies have identified savings from fewer complications related to immobility and decreased length of stay. The direct variable cost difference between before and after intervention is approximately $11,000, direct variable cost savings to patient approximately $8,000 (Falkenstein et al., 2020; Wyatt, Meacci & Arnold, 2020). It is difficult to
locate various program costs, however, one study found their annual early mobility program cost an average of $135,000 (with mobility aids and equipment), while saving an approximate annual $2,300,000 from medical complications resulting from lack of mobility (Falkenstein et al., 2020).

Development of a CBO for EPM is imperative to adoption of the process and to increase engagement from interprofessional staff. The weight of an EPM process falls primarily to bedside nursing staff, while also including respiratory therapists, physical and occupational therapy, and nursing assistants. Providers must have confidence in staff to implement the EPM with patients regardless of admitting diagnosis, identifying those with appropriate barriers to mobilization. Studies show that staff who are thoroughly educated and participated in an EPM CBO were more likely to initiate mobility of patients on their own. Staff also reported that by trusting their ability to mobilize patients they realized the benefits of EPM and found more fulfillment in their work due to results of mobility being obvious by improvement in patient condition, fewer complications and shorter length of stay in the high acuity setting. Nursing should have a strong understanding that by completing the EMP CBO they are lowering the risk of patient injury or adverse events (i.e., falls, accidental removal of invasive lines) and possible work-related injuries to self.

**Purpose of the Program Review and Development Project**

The purpose of this program review and developmental project is to identify programs that have been established to assist in early progressive mobility of patients in the intensive care or progressive care setting and to develop a toolkit on EPM that can be implemented according to verified best practice. The review began by identifying three established protocols, two governmental and one created through an individual healthcare organization for implementation of EPM. While looking at toolkits as a whole, the review gave special attention to staff introduction, competency verification and continuing education. Population of interest is nursing staff implementing a structured EPM protocol. Setting is any high acuity patient care area such as an intensive care unit or progressive care unit in any healthcare facility. The
The objectives for the development of this toolkit have been outlined per the requirement of this project using the SMART format (specific, measurable, attainable, realistic, and timed) and are:

- Using the CDCs Framework for Evaluation, review three established Early Progressive Mobility Protocols used by governmental or professional organizations by the end of week 4 of the proposed project developmental timeline.

- Develop a visual and auditory learning tool that includes correct identification of patients that meet safety requirements for mobilization with completion quiz by the end of week 5 of the proposed project developmental timeline.

- Complete creation of an EPM toolkit that includes a checklist that can be utilized during staff live demonstration of proper use and handling of available mobility equipment by week 6 of the proposed project developmental timeline.

Program Problem Statement

For interprofessional staff in high acuity setting such as an intensive care unit (P), how does established competency-based orientation for early and progressive mobility strategies (I) compared to no structured early and progressive mobility program (C) influence the efficacy of recognition and response prioritization for early and progressive mobility (O)?

Population

The population for this program evaluation project is nursing staff employed in high acuity patient care areas in healthcare facilities initiating or implementing an EPM.
Development of a toolkit for use with high acuity patients that includes a CBO designed to outline EPM, identifying safety parameters and ability to correctly and competently utilize mobility equipment.

Comparison

Patients in high acuity settings where activity orders have no outlined parameters for staff to abide by or mobility must wait to be initiated after a physical therapy evaluation has been completed and recommendation placed.

Outcome

With utilization and completion of the toolkit and CBO, nurses in high acuity settings will successfully and confidently mobilize patients who fall within the safety parameters set forth as a guideline.

Utility of Program Review

A high acuity patient setting can be intimidating for new incoming staff and increased levels of anxiety for patients and family. Staff are trained to provide competent patient care in order to establish and maintain a trusting relationship with patients. Standardized care that is built on evidence-based processes and evaluated using a strong framework that is tested to ensure best possible outcomes for all stakeholders works to verify sustainability.

During their scholastic training nurses are taught to use good body mechanics when moving patients and the basics of transferring patients from a bed to a chair, use of a gait belt, and often a quick tutorial on various pieces of equipment that may or may not be available to use in practice. There is a large amount of available research that EPM used in the high acuity settings is beneficial to patient outcomes. To implement EPM nursing must be knowledgeable with what determines a safe environment and be trained in the use and possess a confidence in being able to use the equipment or mobility aids provided to them by their employer. It is important to remember that mobility is only a small part of nursing practice, therefore not something that every nurse is comfortable with initiating, particularly when caring for patients.
that are in the intensive care setting. Though nursing is the focus of this project, the training of safety with equipment should be implemented for all staff assisting in this project, and may include respiratory therapists, nursing assistants, mobility aids, unit managers, and educators.

Completion of this program will ensure that staff is properly educated through use of visual and hands-on education, preparing them to mobilize patients under their care. Patients and family members can have confidence that staff is able to provide effective care and through education of EPM understand the role that daily movement plays in their hospital stay and throughout the entire healing course.

**Analytical Framework**

To ensure continuity of work and to ensure that programs developed are standardized, the Centers for Disease Control and Prevention came up with a framework to systematically evaluate programs. The purpose of the framework outlines essentials to evaluations, how to conduct effective program evaluation, clarify steps, and address misconceptions regarding the purpose and method of evaluation (CDC, 2017). These steps ensure that the project is useful to the proposed population, feasible in the proposed setting, ethical and provides accuracy to obtain positive results when implemented (CDC, 2017). Use of this model to create a guide for implementing early progressive mobility helps to ensure that the toolkit has ongoing evaluation strategies that involve all stakeholders. Utilizing this evaluation framework has shown to increase the success of planning new programs, improving existing processes, and showing outcomes of required investments such as equipment and educational resources. In this case a CBO for staff in units where EPM has been identified as an important part of patient care and expectation is that it be implemented daily.

The Johns Hopkins Evidence-based Practice (JHEBP) Model is a problem-solving approach to clinical decision-making using a three-step process referred to as PET – practice question, evidence, and translation. This model has been designed to show the need for healthcare to develop a vision for inquiry while simultaneously building an environment that
promotes learning. Implementation ensures practice changes are based on the most up to date research and best practice guidelines (Dang & Dearholt, 2018). The proposed practice change was initiated when it was identified that patients in the intensive care unit (ICU), were primarily being mobilized by physical and occupational therapy. These left long periods of immobility that are identified as risk factors for hospital acquired complications identified in the EBP model. Following extensive literature review, solutions to the problem were identified, as well as barriers to implementation. A plan will be constructed to determine the best dissemination of education, promote adoption and success for long-term implementation. The JHEBP used in conjunction with the CDC evaluation framework will help ensure that a gap in process was identified, a plan developed that identified stakeholders and their needs, and that the evaluation was held to a standard that ensured the most benefits and accomplishment.

Evidence Search Strategy, Results, and Evaluation

Search Strategy

The literature search conducted for this project was done through the University of St. Augustine library. Databases accessed through the library were CINHAL, Gale Academic Onefile Select, MEDLINE, and PubMed. The initial search was done using the keywords early progressive mobility, physical therapy, toolkit, protocol, competency, and early mobility education. The result of this initial search resulted in over 13,000 related articles. The advanced search narrowed down the articles incorporating only those that were in English, full text, and peer reviewed between 2016 and 2021. The words and or were also utilized at this time. A simple switch of the same two words surprisingly presented a wider array of articles. Use of the word and in the advanced search provided the greatest number of articles that incorporated all aspects of the PICOT. Another significant discovery was changing nurse education to competency. This change was recommended by the advanced search engine and severely narrowed down the results and found articles that were focused on implementing a full protocol for EPM. The search conclusion resulted in 10 articles that met inclusion criteria: patients in the
ICU treated with both early progressive mobility (EPM) and physical therapy (PT). Articles excluded were testing only one factor for EPM, keeping an activity order and using a mobility aid such as the ABCDEF bundle or Bedside Mobility Assessment Tool (BMAT).

**Results**

The evidence searches results came at the end of a process that began with a broad search of articles that fell under the umbrella of mobility. Multiple search engines were utilized to ensure the most accurate and appropriate articles would be included, in order extract the best possible evidence. The databases used for the literature search were Cumulative Index to Nursing and Allied Health Literature (CINAHL), Gale Academic OneFile, Medline, and PubMed. The literature search resulted in 5,580 articles from CINAHL, 2,300 articles from Gale Academic OneFile, 6,002 articles from Medline, and 283 articles from PubMed. Removal of duplicate articles and utilizing inclusion and exclusion criteria left a remainder of 510 articles to review. From those 510 articles, 10 articles met inclusion criteria. This breakdown is visualized through use of the PRISMA diagram (Fig 1). Chosen articles included mobility in the intensive care unit (ICU), nursing being a significant part of implementation, and looked carefully at safety precautions, use or need of mobility equipment, and education for staff and patients. The final 10 articles included: 5 qualitative studies, 1 meta-analysis study, 1 randomized trial study, 1 longitudinal study, and 2 observational studies.

**Evaluation**

For grading of the chosen articles, The Johns Hopkins Evidence-Based Practice (JHEBP) Model was used. Johns Hopkins developed this EBP model to guide grading level of articles and determine quality of evidence used in change projects (Dang et al., 2022). Two tables represent the summary of findings for this change project, the Summary of Primary Research and Systemic Review. As illustrated in these tables (see Appendix A and B), one article was Level I evidence (Resnick et al., 2016), two articles were Level II evidence (Higgins et al., 2019; Hopkins et al., 2016), one article was Level III evidence (Klein, Bena, & Mulkey,
2018), and the remaining six articles were Level V evidence (Bergbower et al., 2020; Booth et al., 2016; Falkenstein et al., 2020; Negro et al., 2018; Shallom, 2020; Wyatt, Meacci & Arnold, 2020). Only one was noted to be a systemic review (Higgins et al., 2019) this was classified as a Level II with a quality A rating (appendix B).

In referencing the JHEBP model, six of the articles received a quality Grade A (Bergbower et al., 2020; Falkenstein et al., 2020; Higgins et al., 2019; Klein, Bena & Mulkey, 2018; Negro et al., 2018; Shallom, 2020). The remaining four articles were found to be quality Grade B (Booth et al., 2016, Wyatt, Meacci & Arnold, 2020; Hopkins, et al., 2016; Resnick et al., 2016).

**Critical Appraisal of the Evidence with Themes**

**Process Outcomes**

Process outcomes varied slightly with each study in regard to implementation, hospital-acquired infections (HAI) decreased, length of stay (both ICU and hospital), need for therapy following discharge and 30-day readmission. All of the reviewed research studies showed significant support for implementing EPM in the intensive care setting. Utilizations of an algorithm or protocol to ensure safety of patients and staff increased confidence of staff to act in accordance with EPM orders which improved process outcomes (Bergbower et al., 2020; Falkenstein et al., 2020; Bena et al., 2018).

**EPM vs PT Orders**

Out of the 10 studies that made the final review, eight of these studies looked at EMP vs waiting for standard PT evaluation and treatment orders. PT evaluation until recently has been the gold standard for determining level of activity and safety for movement of patients in any hospital setting, even more so in the ICU. Acknowledging that PT remains a vital part of patient care, there was a search to determine if PT must be accomplished prior to movement. Studies looked at the overall movement of patients during their hospital stay, comparing total move time, length of stay and need for rehabilitation (PT or OT in a facility or in-home to return to baseline)
(Faulkstein et al., 2020; Berbower et al., 2020; Booth et al., 2016; Hopkins et al., 2020; Klein et al., 2020; Negro et al., 2018; Shallom, 2020; Wyatt, Meacci & Arnold, 2020). Significant increase in movement time was seen, while required rehabilitation varied. No study looked at the use of EMP alone without PT involvement. EPM orders allow patients to be mobilized prior to PT evaluation. This type of practice change is sometimes referred to as nurse-driven initiatives. This process shortens the time many patients are limited to bed mobility. Two studies discussed PT concerns, these were less about losing their role in patient care and instead concern for patient safety (Booth et al, 2016; Wyatt, Meacci & Arnold, 2020).

**Safety Screens**

The qualitative studies utilized already developed safety screens for movement and level of consciousness/agitation such as BMAT, MOVES, ABCDEF bundle and RASS. These screens were designed expressly for the critical care population to validate safety of both patients and staff. The bedside mobility assessment tool (BMAT) and move often, early, and safely (MOVES), are tools that specifically look at the level of mobility appropriate for patients in all areas, but specifically the intensive care unit. The ABCDEF bundle is a protocol that consists of six elements, designed by the Society of Critical Care Medicine (SCCM). The six elements are as: assess, prevent and manage, both spontaneous awakening trials (SATs) and spontaneous breathing trials (SBTs), choice of analgesics and sedation, delirium, early mobility and exercise, family engagement and empowerment (Society of Critical Care Medicine, 2021). The six elements have shown to decrease mortality and morbidity, reduce restraint use, lower ICU readmissions rates, and discharge to a rehabilitation center (Society of Critical Care Medicine, 2021). The Richmond Agitation-Sedation Scale (RASS) is used in the critical care patient to assess level of sedation. This scale ranges from unarousable sedation (-5) to combative (+5); alert and calm is a score of 0. The benefits of using this scale with early mobility is to assess agitation and identify patients that may not be safe at the time the score is taken to be mobilized or placed in a chair even with a chair alarm.
The study by Klein et al. (2018) developed their own nurse designed algorithm to determine movement ability. Resnick et al. (2016) similarly created a personalized algorithm and used it in conjunction with the FF-AC (Focused function for acute care). Higgins et al. (2019) and Hopkins et al. (2020) utilized EPM by simply educating on the importance of early movement, being sure all patients had a EPM order in from admission. This approach asserted that education was the primary lacking factor resulting in less movement of ICU patients. Both Negro (2018) and Shallom (2020) utilized the ABCDEF bundle to be helpful in implementing EPM while also comparing cohorts where EPM was and was not utilized and whether there were designated personnel versus not.

**Staff Confidence Outcomes**

Literature reviewed investigated various outcomes with several outcomes being prominent in each study when EPM was utilized every day (24-hour period) while using the approved determining factors (i.e., BMAT, MOVE, ABCDEF). All studies supported the use of EPM in the critical care population. A few studies focused on nursing led initiative to bring about change in the ICU setting.

Each study in the literature review of EPM invested a period of time prior to implementation for staff preparation and education. Acknowledgement of nursing need to understand the process played a significant role in concern for sustainability (Fulkenstein et al, 2016; Negro et al, 2016). The terms preparation, education, and competency seemed to be used interchangeably surrounding how staff was made aware of their role in EPM. Educational preparation also varied among the studies. A few studies used in-services defining EPM, explaining role and safety precautions, and included screen shots of required documentation within the EHR (Booth et al., 2016; Fulkenstein et al., 2016; Negro et al., 2018). In contrast other studies utilized visual audio presentations with completion required 7 to 14 days before EPM implementation began (Shallom, 2020; Wyattm Meacci & Arnold, 2020. A less popular approach was education boards with a sign in sheet (no deadline date seemed to be required).
(Hopkins et al., 2016). Klein, Bena and Mulkey (2020), was the only study that used visual in-service on EPM and available mobility equipment prior to implementation.

Strength of education prior to implementation and reinforcement of process played a direct role in nurses feeling confident and competent to mobilize patients in high acuity settings. Nurses expressed need for simplicity of education and process due to being in already demanding environments. Due to the limited focus on proper training of mobility equipment there is an inability to compare approaches. In the study where equipment use was reviewed, nurses were expressed having to use unfamiliar equipment was a bigger barrier for them then identifying and noting the need and benefits of EPM (Klein, Bena, & Mulkey, 2020).

**Evidence-based Recommendation Statement**

Studies included once literature review was complete supports the implementation of EPM and the ability to provide it to the critical care population safely and effectively. Though EPM is not new to inpatient care areas requiring high acuity monitoring, the systems or protocols currently being used to implement and deliver EPM has not met with consistency. Improvement of patient outcomes is strong, while long-term sustainability remains undetermined. There is limited data to address what is the specific issue with sustainability, other than EPM is primarily nurse-driven practice, in a profession already overwhelmed with responsibility, though it seems to be linked with amount of education and confidence to safely move patients (Booth et al., 2016; Fulkenstein et al., 2016).

While the need for EPM is strong, education is imperative to nurse confidence in being able to maintain this program and do it without inadvertently causing harm to the patient or self. Best-practice in healthcare is aimed at finding the best available process for care, while ensuring the best possible outcomes for patients. A piece of this is to develop tools or toolkits that can be utilized in various patient settings to enhance delivery of care.

Based on the literature review there is a recommendation that to enhance delivery of EPM there is a need for the development of an educational process that consistently prepares
nurses to implement EPM (Bergbower et al., 2018, Negro et al, 2016). When nurses feel confident in their ability to provide good and safe care EPM becomes a priority (Klein, Bena, & Mulkey, 2020). This recommendation answers the PICO question:

For interprofessional staff in high acuity setting such as an intensive care unit (P), how does established competency-based orientation for early and progressive mobility strategies (I) compared to no structured early and progressive mobility program (C) influence the efficacy of recognition and response prioritization for early and progressive mobility (O)?

Program Analysis and Evaluation Plan

Throughout the literature review there was no conclusive process or toolkit identified for EPM. As a result, the project manager (PM) reviewed practice statements, and available evidence-based resources to guide the development of a toolkit that would be available to fill in practice gaps that were identified in the literature. The Centers for Disease Control and Prevention (CDC) has created a standardized system for program development, the Program Evaluation Framework (PEF). PEF was used to guide this EPM toolkit from initiation to implementation and evaluation using six steps: engage stakeholders, describe the program, focus evaluation design, gather credible evidence, justify conclusions, and use and share lessons learned (CDC, 2018).

Three programs and toolkits were chosen for review to be included in this project. The Society of Critical Care Medicine (2022) has recognized EPM has significant efficacy in improving patient outcomes while being cost effective, and not requiring an increase in staffing ratio or resource utilization. New York State Partnership for Patients, Agency for Healthcare Research and Quality (AHRQ), and Johns Hopkins Activity and Mobility Promotion (JH-AMP) were chosen due to their commitment to provide the best care according to latest research guidelines, critical care outcome initiatives, and improvement of interdisciplinary teamwork.
Engage Stakeholders

The initial step to program development of the toolkit is to identify those individuals that will be affected by the program, along with the individuals implementing the program and its evaluation (CDC, 2018). This step helps to guide the project because it identifies the population that the toolkit is being created because it assists to clarify objects and objectives. Without understanding stakeholders, the PM risks creating a toolkit that may meet a need but is not adaptable to the setting or culture where it is being implemented. During this step the PM worked to understand the specific concerns of staff and patients in high acuity settings where EPM was needed, staffing ratios, equipment, and education. This step also identifies the preferred method of communication by the stakeholders – in person, phone, email – regardless of chosen route, consistency and clarity should be maintained.

Describe the Program

To create a visual of what was identified as important to the development of a substantial toolkit a logic model was created (Figure 1). Adopting the recommendations from the CDC’s PEF to present the connections between the various pieces the logic model includes the toolkit inputs, activities, outputs, outcomes, impacts, and moderators (CDC, 2018). While designing the logic model the PM gave special consideration to the mission, vision, goals and objects to the toolkit, while simultaneously reviewing the available programs and protocols currently available for EPM.

Focus the Evaluation Design

PEF step 3 is created to hone in the focus of the evaluation of the program, not to evaluate the program as a whole. PEF has identified over 30 standards of evaluation, with the most important ones being grouped under four categories: utility, feasibility, propriety, and accuracy (CDC, 2018). In this phase the PM validated the need for program improvement, generation of new knowledge and refining goals of stakeholders. For this toolkit the PM identified specific activities and outcomes for EPM (i.e., competency training for staff,
prioritization of EPM) laying out a roadmap through a logic model. These goals were laid out in SMART goals format in the project proposal.

**Gather Credible Evidence**

Sufficient evidence is used to strengthen evaluation judgements and consequently, the recommendations that follow (CDC, 2018). Adequate review and evaluation of programs included affect credibility of the toolkit. Quality, quantity, sources, and logistics were all scrutinized by the PM. In reviewing the three selected programs/toolkits the PM investigated stakeholder engagement/input, staff education/preparation, and model implemented to determine success. These topics were chosen as PM identified these areas as pivotal to staff wariness or commitment to EPM.

**Justify Conclusions**

Justifying conclusions through evidence utilizes five elements: standards, analysis/synthesis, interpretation, judgement and recommendations (CDC, 2018). Analysis and synthesis of the evidence was utilized to identify weaknesses in preparation and implementation for the current programs and toolkits. Strengths were also evaluated for similarities specific to staff education, confidence, and sustainability. Following analysis, the PM was able to identify knowledge gaps with each program and draw conclusions that were measured against the PEF. Using the recommendation formed from the evidence a toolkit was designed for EPM, using the most up-to-date evidence and available resources.

**Ensure Use and Share Lessons Learned**

As mentioned previously it is important that the toolkit meet not just a need for improved process, but to also bring more clarity to the stakeholder so that the change is maintained to improve long-term outcomes (CDC, 2018). Designing a process that to achieve intended use by the stakeholders was achieved through the design of evaluation as outlined in the project/toolkit proposal. A dissemination plan was developed that highlighted safety parameters, education strategies and identified tailored communication to meet staff and facility needs. The culmination
of these steps and subsequent findings were used to develop a toolkit for EPM in high acuity patient care settings.

**Program Evaluation Discussion and Recommendations**

Evaluation of the available early progressive mobility programs and toolkits was completed by comparing with the CDC’s Program Evaluation Framework to analyze the published content related to three EPM programs: Agency for Healthcare Research and Quality (AHRQ) Nurse-driven early mobility protocol, New York State Partnership for Patients (NYSPFP) progressive mobility program toolkit, and Johns Hopkins Activity and Mobility Promotion (JH-AMP). The programs evaluated were selected for their strong emphasis on thorough preparation from planning to process review after implementation to be able to successfully meet the needs of the target population in high acuity patient care areas.

Each of the three programs were thoroughly evaluated by systematically measuring them against each of the six identified categories and the standards that are outlined within them. For each program the PM identified commitment to program development, evidence credibility, stakeholder engagement, safety standards, and education of staff, patients, and their significant others. The CDC took the 30 standards developed by the Joint Committee on Standards for Education Evaluation and divided them into four groups. These four groups are utility, propriety, feasibility, and accuracy. By utilizing these four categories to measure against the three chosen programs the PM could determine if the result of these programs would likely prove effective for the intended users.

Through the literature review the PM identified staff anxiety being key to the resistance of full acceptance and adoption of EPM into practice. Following this identification, specific attention was given to evaluated program devotion of staff being able to identify patients that were appropriate for EPM. Each program had a built-in algorithm by which staff could measure their patient against to determine if they met criteria. All algorithms included mobility orders, activity level, hemodynamic parameters, and exclusions criteria. Two algorithms also included
revaluation criteria (AHRQ and Johns Hopkins) within the same shift, though this section had striking variability between them. In contrast the Healthcare Association of New York’s program deferred mobility to the next day if patients did not meet criteria. All three programs stressed the need to have clear and defined safety parameters in place prior to implementation, to ensure buy-in from all stakeholders, particularly providers. The safety parameters are ultimately in place to reduce the incidence of adverse events, but in this instance also guide nursing to validate their movement within a defined scope of practice. This last point was also identified to increase staff resistance to mobilize patients which resulted in lack of commitment to process change.

In addition to being able to distinguish patient appropriateness, there was also recognized a lack in staff being able to identify mobility available equipment while also noting which patients’ equipment was most appropriate to use with while performing EPM. Each of the three programs evaluated had a section where pieces of equipment that are useful with EPM were listed. The PM noted that each list was found to be quite simplistic, essentially describing equipment in very broad terms such as a lift or draw sheet. Safety suggestions regarding mobility aids/equipment was limited to referring to manufacturer’s user instructions and that staff should familiarize themselves with available resources for EPM as they are often complex and improper use can result in injury to both patients and staff. Each program acknowledged that multiple available mobility devices improve EPM implementation for individual staff members as they will find one they are most comfortable with using. The JH-AMP was the only program evaluated that gave significant time to discussion of mobility aids, stressing the importance of staff familiarity with equipment and recommending in person hands on orientation as well as yearly follow-up education. JH-AMP provided not only written recommendations, but also have available audio and visual examples of training in equipment use to assist with decreasing staff anxiety while increase EPM compliance.

The PM took both of the educational SMART goals and looked at them carefully through the lens of the above-mentioned standards. Utility, or the assurance that the information meets
the needs of the intended users was found to be accurate for all three programs. The AHRQ and the JH-AMP appeared to be more specific to high acuity patient care areas, while the NYSPFP though designed with high acuity setting in mind, felt more geared to lower levels of patient care. Propriety was equal among all three programs with patient outcomes and staff familiarity and comfort level being at the forefront of the program design. Feasibility ensures the evaluation is realistic, the PM noted each program design laid out a timeline that was attainable and creating a program that has clear expectations, goals, and safety parameters. Accuracy works to shed light in information that determines merit of the program being evaluated. For the standard of accuracy all three programs came in strong. All three utilized current evidence and used best practice in their design. Relevance of these things was in process implementation, stakeholder engagement, commitments to safety and improved outcomes. All three also did a post evaluation to identify weaknesses and validated needed adjustments to meet end goals. Though not a complete breakdown of the standards of each of the program evaluated, enough information was obtained for the PM to have confidence that each one meets the expectations of the CDC evaluation framework.

Done with care to pursue a thorough literature review and synthesis and locate programs that have shown detail in implementing EPM, there still remained limitations to final program review. These limitations were using only programs published and made public through major healthcare centers, research databases, and state health programs. While programs were evaluated, there was no measure of their use or success in practice currently. Critical care educators and nurse leaders were consulted in the development of the EPM education for high acuity patient care toolkit, however the toolkit has not been placed into use at this time. There is also the acknowledgement that ease of implementation and familiarity with mobility equipment is a major factor. Mobility equipment availability is facility dependent. This may require the developed mobility aids competency test to be altered prior to implementation to meet
organizational needs. See Appendix for the High Acuity Care EPM competency-based orientation toolkit.

**Dissemination**

This project was designed as a capstone for a DNP student and was all done in a virtual setting. This toolkit was designed for any inpatient unit wanting to increase or implement commitment to early progressive mobility, particularly in those units with high acuity patients. For this toolkit to become disseminated to this population the PM will be in touch with local nurse educators via relationships created via membership of local nurse leadership and critical care nurse professional organizations such as American Nurse Association (ANA) and American Association of Critical-Care Nurse (AACN). The project will also be distributed to the facility for which the original project was designed with in mind. The PM has remained in contact with nurse leadership who is eagerly anticipating using the toolkit to improve patient care and outcomes. These methods of dissemination were chosen due to the project being virtual and not having a specific organization to which it is tied to, this seemed the most logical and promising route of dissemination. Working with nursing professional organization also made sense as the toolkit is designed particularly with the bedside nurse at the center and works to increase awareness, dedication, and confidence in early progressive mobility.

In addition to the aforementioned, this project will go into the University of St. Augustine for Health Sciences Library Scholarship and Open Access Repository (SOAR). To meet requirements of degree completion, a virtual poster is submitted to USA for dissemination to future DNP students and faculty.

**Conclusion**

Early progressive mobility is known to improve patient outcomes but cannot be successfully implemented without nursing support or willingness to commit to making it a part of everyday patient care. There has been identified an issue in implementation success that correlates directly with nurse reluctance and anxiety which was identified to be tied with gap in
education. For recommendations and changes to be made three available protocols were reviewed, with careful inspection given to the preparation and education given to staff. The information obtained was then compiled to develop a toolkit that focuses on education of staff caring for patients in high acuity patient care areas. Programs had to meet the requirements for understanding EPM, guiding implementation placed a strong emphasis on staff preparedness and education. These three were Agency for Healthcare Research and Quality, Healthcare Association of New York, and Johns Hopkins.

The literature synthesis was effective in evaluating the meaning and relevance of the findings which focused on staff education of role and responsibility and identifying ways to improve success of program and permanent process adoption. The CDC Program Evaluation framework was used to ensure the programs met the requirements for sustainability and utilized current knowledge of best practice. The resulting toolkit made sure to encompass purpose statements, audience recommendation, key definitions, implementation strategy, evaluation tool, stakeholder engagement tool, communication planning, policy statement, audio and visual education including a mobility aids guide and checklist, and family and patient education.
References


At Home Nursing Care (2018, August 2). Using a hoyer lift #1 – how to transfer from the bed to the chair [video]. YouTube. https://www.youtube.com/watch?v=M11CMip07tA


https://www.youtube.com/watch?v=D53gygWRhLM

MFI Medical Equipment (2017, July 20). Hausted all purpose chair (APC) and electrical (EPC) stretcher chairs demonstration [video]. YouTube.  
https://www.youtube.com/watch?v=uXNTgY95pG4&t=56s


Retrieved September 16, 2022, from  
https://qualityimprovementcollaborative.org/focus_areas/falls/docs/NYSPFP_mobility_toolkit.pdf

https://www.youtube.com/watch?v=9mddhKAEQTQ

https://www.youtube.com/watch?v=Y9vh19mOmOM


Table 1

Logic Model

**Inputs**

- Stakeholders: Staff, Project Leaders, Educators, PT/OT, Patients

- Education materials

- Mobility equipment

**Activities**

- Assess current available resources for EPM

- Gather project champions & Nurse leaders

- Assess staff barriers to EPM

- Formal training on using competency based orientation tool

**Outputs**

- Increase in staff EPM orientation completion

- Increase in EPM compliance from staff

- Decreased staff anxiety with EPM implementation

- Daily mobilization of high acuity patients

**Short-term Outcomes**

- Increase understanding of EPM

- Increase use of available mobility aids

- Increase in # patients mobilized

**Intermediate Outcomes**

- Increased awareness of benefits of EPM

- Increased daily evaluation of patients that meet EPM criteria

**Long-term Outcomes**

- Staff commitment to EPM

- Improved patient outcome r/t EPM implementation
Figure 1

PRISMA Flowchart

Identification
Records identified through database searching (n=13,072)
Additional records identified through other sources (n=0)

Screening
Records after duplicates removed (n=1,786)

Eligibility
Records screened (n=510) → Records excluded (n=485)
Full-text articles assessed for eligibility (n=25) → Full-text articles excluded, with reasons (n=15)

Included
Studies included in synthesis (n=10)

## Summary of Primary Research Evidence

<table>
<thead>
<tr>
<th>Citation</th>
<th>Design, Level Quality Grade</th>
<th>Sample Sample size</th>
<th>Intervention Comparison</th>
<th>Theoretical Foundation</th>
<th>Outcome Definition</th>
<th>Usefulness Results Key Findings</th>
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<tr>
<td>Falkenstein, B. A., Skalkowski, C. K., Lodise, K. D., Moore, M., Olkowski, B. F., &amp; Rojavin, Y. (2020). The economic and clinical impact of an early mobility program in the trauma intensive care unit: A quality improvement project. <em>Journal of Trauma Nursing, 27</em>(1), 29-36.</td>
<td>Quality improvement project Level V Grade A</td>
<td>87 patients Level II Trauma center: STICU/MICU 14-bed ICU</td>
<td>Daily mobility based on RASS and guided by ABCDEF bundle Comparison: Cohort from previous 4-month study on patients with PT mobility orders only</td>
<td>N/A</td>
<td>Increased mobility led to reduced complications often seen in ICU patients</td>
<td>Length of stay, ventilator days, cost, functional milestones, and need for rehabilitation after discharge decreased</td>
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<td>Quality Improvement Project</td>
<td>Quality Improvement Project</td>
<td>Level V</td>
<td>Grade B</td>
<td>Quality improvement project</td>
<td>Level V</td>
<td>Grade B</td>
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<td>95,000 patients in 177 acute care beds across 177 VA Medical Centers</td>
<td>Daily EPM in all patients using the BMAT Vs Standard mobility orders</td>
<td>N/A</td>
<td>Decrease in LOS, ventilator days. Increase in functional status as time of discharge</td>
<td>EPM is vital to improved patient outcomes. EPM should be combined with SPHM to ensure safety of patients and staff while lifting and repositioning</td>
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<tr>
<td>260 pre-intervention patients, 377 post-implementation patients, 480 12-month post-implementation patients in a Neuro ICU</td>
<td>Nurse implemented algorithm to determine readiness for mobility vs waiting for PT</td>
<td>N/A</td>
<td>Two-fold increase (42.7 %) in pts who stood at the bedside or walked independently vs 21% pre-intervention</td>
<td>EPM is beneficial in the ICU setting and reduced length of stay</td>
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<td>Resnick, B., Wells, C., Galik, E., Holtzman, L., Zhu, S., Gamertsfelder, E., Laidlow, T., Boltz, M. (2016). Feasibility and efficacy of function-focused care for orthopedic trauma patients. *Journal for Randomized trial</td>
<td>Randomized trial</td>
<td>89 older orthopedic trauma patients</td>
<td>Function focused care for Acute Care (FFC-AC) Education, assessment &amp; policy change. Training &amp; motivation of nursing staff to ambulate patients Vs Only education on the importance of ambulation vs</td>
<td>N/A</td>
<td>Decrease in LOS (4.92 days vs 3.30 days), pain, depression, and delirium. 30-day post-d/c greater decline in fear of falling &amp; increase in physical activity</td>
<td>Outcome depends strongly on nursing and therapy collaboration. Nursing staff must remain motivated.</td>
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<td>Study Details</td>
<td>Study Design</td>
<td>Participants</td>
<td>Intervention</td>
<td>Comparison</td>
<td>Outcome Measures</td>
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<td>Hopkins, R.O., Mitchell, L., Thomsen, G. E., Schafer, M., Link, M., &amp; Brown, S.M. (2016). Implementing a mobility program to minimize post-intensive care syndrome. AACN Advanced Critical Care, 27(2), 187-203.</td>
<td>Meta-analysis</td>
<td>Cohorts 30 to 166 patients (median 54)</td>
<td>Use of EPM in comparison to PT to impact on rehabilitation</td>
<td>Vs Patients receiving only PT</td>
<td>ICU LOS decreased from 7.9 to 4.2 days</td>
<td>EPM has proven safe and effective in reducing LOS, delirium, muscle loss, and return to self-care</td>
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</tbody>
</table>
Shallom, 2020  | Quality improvement project  | 4,625 patients  | Implementation of EPM protocol as part of the ABSCDEF bundle  | N/A  | Decrease in LOS  | The ABCDEF bundle is a reliable guide to determining readiness to move prior to PT eval. Implemented correctly significantly lowers complications from immobility  
Level V  | 7 specialty ICUs in Level I Trauma center, 132 ICU beds  | Vs Patients mobilized upon PT evaluation and during PT sessions  |  | Decrease in ICU delirium positive days  | 1 day decrease in time to first PT evaluation  
Grade A  |  |  |  |  |  

Legend:

BMAT: Bedside mobility assessment tool
D/C: Discharge
DVT: Deep vein thrombosis
EPM: Early Progressive Mobility
LOS: Length of stay
LOHS: Length of hospital stay
PE: Pulmonary embolus
SPHM: Safe patient handling and mobility
VAP: Ventilator associated pneumonia
### Appendix B

#### Summary of Systematic Reviews (SR)

<table>
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<tr>
<th>Citation</th>
<th>Quality Grade</th>
<th>Question</th>
<th>Search Strategy</th>
<th>Inclusion/Exclusion Criteria</th>
<th>Data Extraction and Analysis</th>
<th>Key Findings</th>
<th>Usefulness/Recommendation/Implications</th>
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<tr>
<td>Higgins, S. D., Erdogan, M., Coles, S. J., &amp; Green, R. S. (2019). Early mobilization of trauma patients admitted to intensive care units: A systematic review and meta-analysis. <em>Injury, 50</em>(11), 1809-1815.</td>
<td>A</td>
<td>EPM in the trauma ICU setting with both ventilated and non-ventilated patients. Vs Combination of nurse-led and interdisciplinary team intervention</td>
<td>Cohorts ranged from 15 to 1132 patients (median 63) in Trauma ICU</td>
<td>EMP utilized in ICU setting.</td>
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<td>Decrease in LOS and LOHS. Increase in ventilator free days Decrease in ICU delirium</td>
<td>EPM led to reduction in mechanical ventilation among trauma patients in the ICU, minimally significant difference in LOS, no difference in mortality.</td>
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**Legend:**
- EMP: Early progressive mobility
- LOS: Length of stay
- ICU: Intensive care
- VAP: Ventilator associated pneumonia
### Project Schedule

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<td>Census: RASS/CPOT Score</td>
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Appendix D
Purpose Statement:
The purpose of this toolkit is to provide a guide for the implementation of education and competency-based orientation for high acuity settings where early progressive mobility (EPM) is being implemented to inspire staff confidence and improve response to prioritization.

Audience:
This toolkit is designed to be used in an audience encompassing all primary staff and clinicians in the high acuity patient setting. This may include but is not limited to nurses, respiratory therapists, nursing assistants, physicians, and educators. While a full audience is included, education is written specifically with the bedside nurse as the primary receiver of the education.

I. Definitions/Glossary

A. Agency for Healthcare Research and Quality defines EPM as: “to introduce an evidence-based mobility program designed to maintain baseline mobility and functional capacity…”

B. Johns Hopkins Activity and Mobility Promotion (JH-AMP) states education should be designed to: “Firmly establish the concept that a systemic approach is essential to combating the harms of immobility…[by] providing frontline caregivers tools and support…that can successfully increase patient activity and mobility to improve outcomes”

C. Agency for Healthcare Research and Quality states EPM education should:
   “Be tailored to meet the individual unit needs, providing principles are in that promote teamwork, communication, and patient safety culture.”
D. Partnerships for Patients recognizes the importance of EPM education stating: “Clinicians should incorporate progressive mobility into daily workflow with the same importance as taking blood pressure readings...the patients mobility level and efforts to mobilize is key for measuring workflow processes and outcomes.”

II. IMPLEMENTATION STRATEGY:

Identify the Problem

What is the primary factor why patients are not being mobilized every day. Is it physiological problem (i.e., anxiety, sedation), physical (i.e., unstable spine injury, pain), hemodynamic (i.e., blood pressure, intracranial pressure, limited ventilator compliance). These are all patient-related difficulties to mobility. Each fall under safety identifiers, but do not necessarily prevent patients from mobilizing. For patients that are being mobilized what are the factors? What makes staff uncomfortable mobilizing patients (diagnosis, invasive lines, lack of equipment/ability to properly operate equipment, etc.)?

Research and Select Evidence-Based Education Tools

After the primary problem has been identified, available education tools should be reviewed measuring their value for commitment to safety, improved patient outcomes and sustainability. The foundation of this tool kit is based on the principles of evidence-based practice, and recommendations made using the most up-to-date processes key to process change and implementation of early progressive mobility. Early progressive mobility is often a part of a broader intensive care bundle, because of this factor there are many tools available for EPM, education for staff, patients and family members.

Plan for Implementation

a. SMART (Specific, Measurable, Attainable, Relevant, Time-Based) goals

Staff Inclusion

i. Keep staff informed about upcoming project implementation
ii. Discuss barriers to mobility (i.e., anxiety, available mobility aids, staff)

iii. Identify safety parameters

Vital signs, level of injury, invasive lines, recent changes in hemodynamic stability, newly developed arrythmias. Increased cranial pressure, <2-hour prior changes to ventilator settings or need for continuous vasopressor (*List not exhaustive)

b. Develop a Timeline

i. Leadership education – 2 weeks (Identify EPM education program, inform on CBO, review CBO, determine various responsibilities, complete CBO individually)

ii. Staff education – 4 weeks

iii. Implementation start date

c. Create Budget

i. What mobility equipment is available, what equipment is needed?

ii. Is there an available educator?

iii. What educational resources need to be created or are available?

d. Identify Stakeholders and Project Team Leaders

i. What unit staff are vital to the success of implementation of EPM?

ii. What individuals can assist with competency education and compliance with EPM implementation?

e. Develop a competency tool to identify safety scenarios and proper use of mobility equipment used for EPM to ensure staff knowledge of process

f. Ensure clarification of educational needs prior to implementation, discuss questions and concerns

Implement Competency-Based Orientation for EPM

a. Clinical staff completes audio/visual orientation complete with quiz
b. Clinical staff completes hands-on equipment identification and proper use demonstration compete with check-off
c. Check in with stakeholders and team leaders
d. Feedback from staff, team leaders and clinicians

Reflect

a. After a set amount of time reflect on success of EPM with CBO. Were SMART goals met? What barriers remain in place?
   ▪ Review staff participation in CBO
   ▪ Review EPM compliance for unit for predetermined amount of time before implementation of CBO and after
   ▪ Meet with stakeholders and project champions

III. Evaluation Strategy and tools

A procedure is necessary to establish whether the implementation of a competency-based orientation leads to improved understanding, confidence, and compliance with nurse-driven early progressive mobility. To determine if implementation is successful, the use of an audit tool such as the one listed below. The tool below is basic and can be adapted to meet the needs or goals of a specific unit that is trying to implement. Recommendation is for the tool to be completed daily by a charge nurse, team leader or assigned nurse.

Identified Needs

▪ Staff Education
▪ Sedation Scale
▪ Appropriate activity order (must be specific to EPM)
▪ Refusal documentation
▪ Hemodynamic parameters/Physician notify order

| Unit: | Date: | Census: |
**All unit staff are encouraged to complete the CBO for any unit implementing EPM, however education is designed to meet the needs of nursing staff.**

### IV. Stakeholder Engagement and Analysis Tools

Stakeholders are those persons within the organization and unit that are most effected implementing a CBO for EPM. In this instance primary stakeholders include but are not limited to educational leaders, clinical team leaders, nurses, physicians, physical therapy, occupational therapy, respiratory therapy, nursing assistance, and mobility assistants. The individuals listed are the primary drivers of EPM and without their commitment the probability that an EPM program or protocol will succeed is minimal. To raise participation and maintain successful collaboration with stakeholders of this project there must be a way to monitor said engagement. The use of a stakeholder analysis template provides a visual to create connections between stakeholders, identify their role withing the project and assess their level of commitment.

Various stakeholder analysis templates are available for use, the one listed below is an example of a more straightforward approach. This one was chosen due to the fact multiple disciplines will play a direct part in EPM implementation.

<table>
<thead>
<tr>
<th>RN EPM CBO Completed</th>
<th>BMAT/MORSE Fall Score Yes/No</th>
<th>RASS/CPOT Score Yes/No</th>
<th>Provider Order for EPM Yes/No</th>
<th>Mobility Documentation Completed Yes/No</th>
<th>Refusal Documented Yes/No N/A</th>
<th>Number of Patients Mobilized this Shift</th>
</tr>
</thead>
</table>

| Yes/No | Yes/No | Yes/No | Yes/No | Yes/No | Yes/No N/A |  |
V. Communication Planning Tools

Clear and effective communication is vital to the success of any process change, be it big or small. Frequent communication establishes a foundation of informed knowledge disseminated in amounts that are easy for stakeholders to process. Educators and team leaders must make sure to identify their target audience with each communication and to choose the stakeholder/learners preferred method of communication. Suggested routes that have shown to improve engagement include:

- Email
- Daily huddles
- Virtual meetings (i.e., TEAMS, google chat, Zoom)
- Drive-by education sessions (less than 5-minute informative sessions that allow for feedback from staff/stakeholder at the end)
- In-person meetings

VI. Policy/ Purpose Statement

Successful and sustained implementation of early progressive mobility must be built on strong education and proven attained competency by staff. Each new staff member will
complete competency orientation that will followed up with yearly reevaluation to ensure continual proper implementation of policy, knowledge of EPM guidelines, safety parameter and proper utilization of available mobility equipment.

VII. **Education Materials**

There are many educational resources available for review and discussed within the literature regarding implementation of EPM. Resources and toolkits have slight variations according to mobility levels, sedation measurement, ideal length of time patients should be mobilized, safety parameters, and population they are designed to serve. Identified needed process various healthcare organizations and government agencies have worked to design a program that both benefits patients in regard to outcomes and improve the confidence and understand of the staff members role to safely and effectively implement EPM. Three identified organizations that have designed toolkits that meet each of these requirements with strong emphasis on staff education are the Agency for Healthcare Research and Quality (AHRQ), Healthcare Association of New York, and Johns Hopkin’s Activity and Mobility Promotion (JHAMP). Each tool is designed to be implemented withing the inpatient setting, focus being the critical care population, with the ability to adapt toolkit for use in areas of lower patient acuity. These three toolkits meet the needs laid out for this change project while not the sole authority on EPM implementation and staff education.

A. **Agency for Healthcare Research and Quality Tool**


B. **Healthcare Association of New York Tool**

b. [https://qualityimprovementcollaborative.org/focus_areas/falls/docs/NYSPFP_mobility_toolkit.pdf](https://qualityimprovementcollaborative.org/focus_areas/falls/docs/NYSPFP_mobility_toolkit.pdf)
C. Johns Hopkins Tool
c. https://www.hopkinsmedicine.org/physical_medicine_rehabilitation/education_training/amp/toolkit.html#toolkit

VIII. Staff/Clinician

a. AHRQ Staff Roles and Training – YouTube video (**Quality on Falls that includes EPM) https://www.youtube.com/watch?v=xixH7-l7IB4
c. New York State Partnerships for Patients -YouTube video https://www.youtube.com/watch?v=9mddhKAEQTQ
d. ANA Safe Patient Handling and Mobility – Youtube video https://www.youtube.com/watch?v=Bss2VEvrdcw

IX. Patient/client/ Support Member

a. New York State Partnership for Patients – YouTube video https://www.youtube.com/watch?v=Y9vh19mOmOM
X. Evaluation Tools/CBO document

EPM in the ICU presentation with quiz.

Staff must score 80% or higher to be determined successful in identifying patients that are safe to ambulate.
### Mobility Aids and Assessment

<table>
<thead>
<tr>
<th>Mobility Aid</th>
<th>Indication</th>
<th>Contraindication</th>
<th># Staff Required</th>
<th>Identified aid and named one contraindication</th>
<th>Demonstrated Correct Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movable Lift</td>
<td>- Inability to safely maintain weight bearing for transfer</td>
<td>- Cervical or Spinal fracture</td>
<td>2-person</td>
<td>Pass/Fail</td>
<td>Pass/Fail</td>
</tr>
<tr>
<td></td>
<td>- Contractures/Paralysis</td>
<td>- Pelvic fracture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Sedation/Intubation</td>
<td>- Agitation (RASS &gt;/= +3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stretcher Chair</td>
<td>- Inability to safely maintain weight bearing for transfer</td>
<td>- Cervical or Spinal fracture</td>
<td>2-person</td>
<td>Pass/Fail</td>
<td>Pass/Fail</td>
</tr>
<tr>
<td></td>
<td>- Contractures/Paralysis</td>
<td>- Pelvic fracture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Sedation/Intubation</td>
<td>- Agitation (RASS &gt;/= +3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Reintroduce proprioception in spinal cord injuries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sara Flex Stander</strong></td>
<td>-Transfer of patients who have lower extremity weakness, with &gt;= moderate trunk control</td>
<td>-Spinal injury</td>
<td>-Spinal surgery</td>
<td>-Rib fractures</td>
<td>-Lower extremity fracture or injury with non-weight bearing status</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------</td>
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<td>---------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td><strong>Sara Steady</strong></td>
<td>-Transfer patients who have independent trunk control</td>
<td>-Poor trunk control</td>
<td>-Lower extremity fracture or injury or bilateral lower extremity</td>
<td>-Non-weight bearing status of lower extremity</td>
<td>1-person</td>
</tr>
<tr>
<td><strong>Transfer sheet</strong></td>
<td>-Transfer of patients between flat surfaces</td>
<td>-Use for transferring in patients with unstable cervical or spinal fracture/injury</td>
<td>1 to 2-person</td>
<td>Pass/Fail</td>
<td>Pass/Fail</td>
</tr>
</tbody>
</table>
### Regular Walker

| -Weak forearm strength | -Poor lower body strength | -Homarus, clavicular or shoulder fracture or injury | 2-person | Pass/Fail | Pass/Fail |
| -Weak upper body strength trunk control | -Intubated patients or those with multiple invasive lines | -Non-weight bearing to any lower or upper extremities | |

| -Patient with \( \geq \) moderate lower extremity strength | -Significant muscle weakness | -Poor body control | 1-2 person | Pass/Fail | Pass/Fail |
| -Patients with strong upper body strength and trunk control | -Hemiparesis (may depend on extent) | -Non-weight bearing to bilateral lower extremity | |
| -Unsteady gait | -Balance vs strength difficulties | -Non-weight bearing to one lower extremity | |

| -Moderate to strong body control | -Agitation | -Agitation | 1-person | Pass/Fail | Pass/Fail |
| -Partially dependent muscle control | -Moderate to significant lower extremity muscle weakness | -Poor trunk control | | | |
Gait Belt | -Hemiparesis | -Certain abdominal surgeries (Ex.: liver transplant) |  |  |  |
|---|---|---|---|---|---|

**SCORE**

**TOTAL**

To be checked off as competent to use available mobility aids nurses must score 7/10 on each scored section. Each Pass or Fail is worth 1 point.

**Mobility aids list in not all inclusive. Assessment should be modified to reflect the mobility aids available at each individual healthcare facility.**

Scenario Examples of Process in Use

- FDA Patient Lifts Guide
  

- Stretcher Chair Demonstration
  
  [https://www.youtube.com/watch?v=uXNTqY95pG4&t=56s](https://www.youtube.com/watch?v=uXNTqY95pG4&t=56s)

- Using a Hoyer Lift from bed to chair
  
  [https://www.youtube.com/watch?v=MI1CMip07tA](https://www.youtube.com/watch?v=MI1CMip07tA)

- Sit-to-Stand: How to use it
  
  [https://www.youtube.com/watch?v=UpkP_2EM_AM](https://www.youtube.com/watch?v=UpkP_2EM_AM)

- Sara steady: Patient Handling
  
  [https://www.youtube.com/watch?v=3q1VrYG6zgU](https://www.youtube.com/watch?v=3q1VrYG6zgU)