Improving Early Mobility and Family Engagement for Patients in a Rural Intensive Care Unit

Reality → Theoretical

Background

Mechanically ventilated ICU patients experience **long-term complications** from extended periods of sedation, including:

- Delirium, psychological distress, progressive weakness, increased length of stay in hospital, and mortality (AACN, 2025; AHRQ, 2017)

Barriers to early mobility include:

- Underutilized assessment tools of ICU Liberation Bundle (A-F) → Delayed identification of patients for mobility interventions
- Patient and family discomfort/distress due to knowledge deficit of benefits, procedure, and protocol for physical activity while on mechanical ventilation
- Resources (e.g., staff and equipment)
- Need for an evidence-based protocol or policy to improve and sustain a progressive mobilization program

Importance of Issues

The ICU Liberation Bundle (A-F), "E" for early mobility and "F" for family engagement, is aimed at improving patient outcomes during and after mechanical ventilation.

- 300,000 patients/year require mechanical ventilation in the ICU (Guest et al., 2024)
- **33%** of patients experience delirium (Guest et al., 2024)
- **>50%** of patients experience pain/anxiety (Dayton et al., 2023)
- Mortality rate in critically ill patients ranges from **10-29%** (Guest et al., 2024)

- Daily mobility of ICU patients showed 10% decrease in mechanical ventilation days and 5% decrease in hospital days (Fazio et al., 2024.)
- Nurse-driven multidisciplinary approaches accomplish a higher rate of early mobility (Krupp et al., 2024).

Quality Improvement Framework

The Evidence-Based Advancing Research and Clinical Practice Through Close Collaboration (ARCC) Model

- Collaborative efforts of evidence-based practice champions to identify and address barriers and motivate individual caregivers to practice the interventions through education and multidisciplinary support (Melnyk & Fineout-Overholt, 2023).
- Evidence overwhelmingly supports early mobility interventions
- ICU Liberation Bundle (A-F) accepted as gold standard of care (ACCN, 2025; AHRQ, 2017)

Key Concepts & Outcomes

Overall Outcomes for Patients and Families:

- Improve patient and family knowledge of and comfortability with early mobility interventions
- Improve patient outcomes by reducing complications, such as delirium, PTSD, progressive weakness, and mortality

Key QI SMART Objectives:

- Increase the use of ICU Liberation Bundle (A-F) documentation tools by bedside nurses to 90% over a 6 month period after providing education caregivers
- Increase the number of mechanically ventilated patients that receive early mobility interventions (when criteria are met) to 75% over a 6 month period after providing education

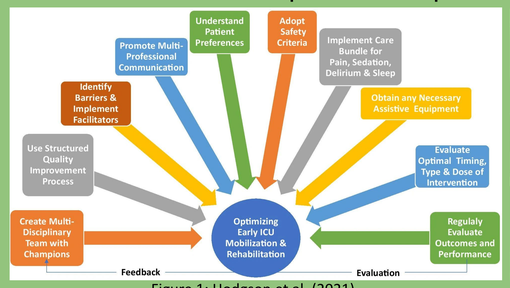

Figure 1: Hodgson et al. (2021)


Figure 2: (Pun, n.d.-f)

Interventions & Solutions

Patient and Family Education

- Benefits of early mobility, protocols, team roles
- Family participation → Communication and emotional support; reduces incidence of delirium and distress

Bedside Nurse and Team Education

ICU Liberation documentation tools (Dayton et al., 2023)

- Pain assessments (CPOT)
- Spontaneous Awakening Trial (SAT) and Spontaneous Breathing Trial (SBT) with documentation of outcomes
- Sedation scale assessments (RASS)
- Delirium assessments (CAM-ICU)
- Activities performed (Epic QuickChart)
- Baseline mobility assessments of patient; ask family

Development of Unit Level Protocols: Progressive Mobilization Pathway

- Required annual competence education for ICU caregivers
- AHRQ-guided protocol for early mobility
- Evidence-based educational materials for team (Pun, n.d.-f) and patients and families (e.g., APSS model for early mobility)

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Key Players

Patient Population: Mechanically ventilated patients and their families in the intensive care unit in a rural ICU

Early Mobility Task Force: Nurse-driven multidisciplinary team comprised of nurse champions, respiratory therapists, physical and occupational therapists, lift team, patient care techs, patients, and patient family members

Organization Partners: Nurse leaders and senior executives within organization to help address resource needs and policy

Community Partners: Outpatient services like home health, physical and occupational therapy, clinics, social work, mental health, and public health

Evaluation

Process Evaluations:

- Chart auditing of education provided to patients and families and ICU Liberation documentation tools (e.g., how often each tool was utilized when applicable)
- Qualitative data from patient/family and caregiver experiences or observations
- Baseline data collected over 3 month period

Impact Evaluations:

- Baseline data from chart auditing and observations of interventions are used to inform team about educational needs of staff. Was there an increase in education/activity documentation after education?
- Data from patient/family and caregiver experiences are analyzed to inform the team about how early mobility education can be improved upon. Do patients and family members report feeling support? Are team members experiencing any barriers?

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