

Mobilizing Older Adults in the Intensive Care Unit

Lauren Ferrante, M.D., M.H.S.

Assistant Professor of Medicine
Section of Pulmonary, Critical Care, and Sleep Medicine
Yale School of Medicine



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Objectives

1. Review the literature supporting early mobilization in the ICU: why mobilize a critically ill patient?
2. Discuss the reality of implementing such a program
3. Outline opportunities for future research

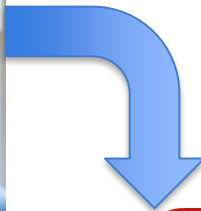
The Old Paradigm



Skeletal muscle wasting occurs early and rapidly in critical illness

Puthuchery et al, JAMA 2013

Functional Trajectories Among Older Persons Before and After Critical Illness



53% of older adults admitted to the ICU transition to a poorer functional trajectory or early death



Ferrante et al. *JAMA Intern Med* 2015; 175(4): 523-9.

The New Paradigm



Early mobilization in the ICU



Mobilizing in the YNHH York Street MICU
(photo with patient's permission)

- Improves functional outcomes¹
- Decrease hospital and ICU length of stay^{2,3}
- Increase discharges home (Neuro ICU)³
- Safe and well-tolerated

¹Schweickert WD, et al. *Lancet*. 2009;373:1874-1882.

²Klein K, et al. *Crit Care Med*. 2015;43:865-873.

³Engel HJ, et al. *Crit Care Med*. 2013;41:S69-S80.

The effects of active mobilisation and rehabilitation in ICU on mortality and function: a systematic review

Claire J. Tipping^{1,2}, Meg Harrold^{4,5}, Anne Holland^{2,6}, Lorena Romero⁷, Travis Nisbet³ and Carol L. Hodgson^{1,2*}

- Improved muscle strength at ICU discharge
- Reduced activity limitations at hospital discharge
- Reduced participation restrictions (days alive & out of hospital) at 6 months
- Improved quality of life at 6 months

Intensive Care Med (2017) 43: 171-183

Establishing an Early Mobilization Program in the ICU

- Quality Improvement (QI) program, not a research study
 - Efficacy in improving outcomes has already been demonstrated
 - Standard of care/recommended practice by all PCCM societies
- Identify and recruit key stakeholders
 - Hospital leadership
 - ICU leadership, including Nursing
 - PT leadership and rehab staff
 - Respiratory Therapy leadership
- Present a business plan (i.e. cost savings to the health system)

Building the STEPS-ICU Program

- ✓ Funding/resources for the program
 - Delivers early mobilization 6 out of 7 days/week
 - 2 full-time physical therapists
 - 1 full-time occupational therapist
 - 1 full-time rehab assistant
 - Equipment
- ✓ Method of identifying patients appropriate for early mobilization
 - ✓ Screening tool initially on paper, transferred to EMR
- ✓ Training/buy-in from ICU staff and faculty

Changing culture takes time and persistence



Achieving Sustainable Culture Change

- Faculty
 - Education → Gentle and frequent harassment (Year 1) → emailed reminders when rotating on-service (Years 2-3) →
 - Now (Year 4): second nature, part of practice
- Residents/trainees
 - ABCDEF talk part of MICU core lectures
 - Checklist on rounds that includes mobility
- Nurses
 - Healthstream online module annually and when hired
 - Targeted education as needed
- Rehab “corner” & inclusion in lectures
- Maximizing use of the EMR
 - Changing activity defaults in the EMR
 - EMR screening tool for mobility
 - “STEPS-ICU” Mobility dashboards

STEPS PROGRAM

- S** Sit on the edge of the bed
- T** Transfer to chair
- E** Exercise in bed & chair
- P** Position upright in chair
- S** Steps around the unit

STEPS to get moving.

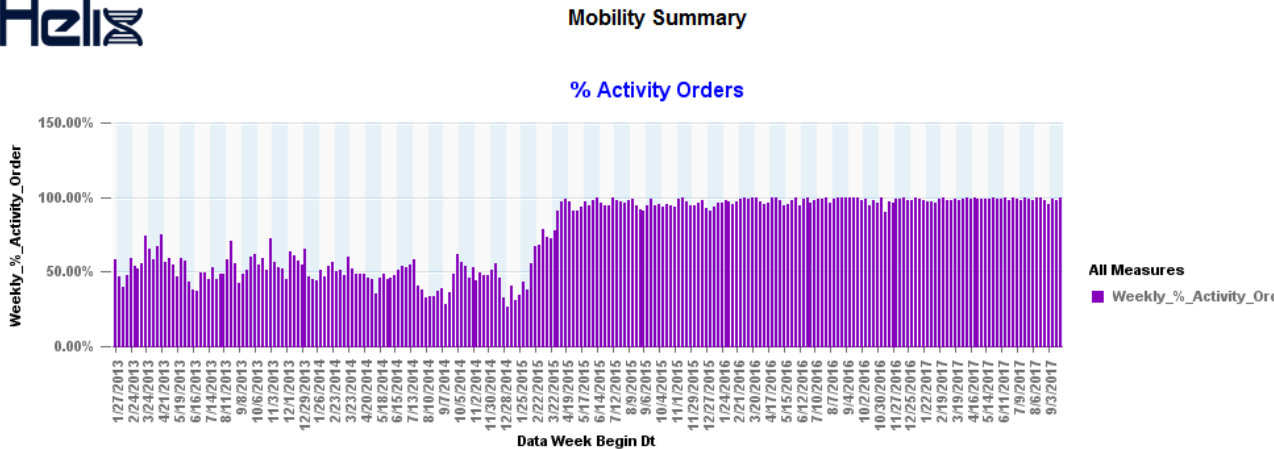
First...Some Background

Welcome to Bridgeport Hospital

- There is a growing population of critically-ill patients at YNH
- Critically ill patients are at high risk for developing neuromuscular weakness
- Neuromuscular weakness leads to an increased length of stay (LOS) and other highly-morbid complications
- LOS and complications are a large driver of cost within a hospital system
- Early ICU mobilization can reduce neuromuscular weakness, in turn reducing LOS and complication rates
- Most importantly, this is good for the patients themselves

Prev Next

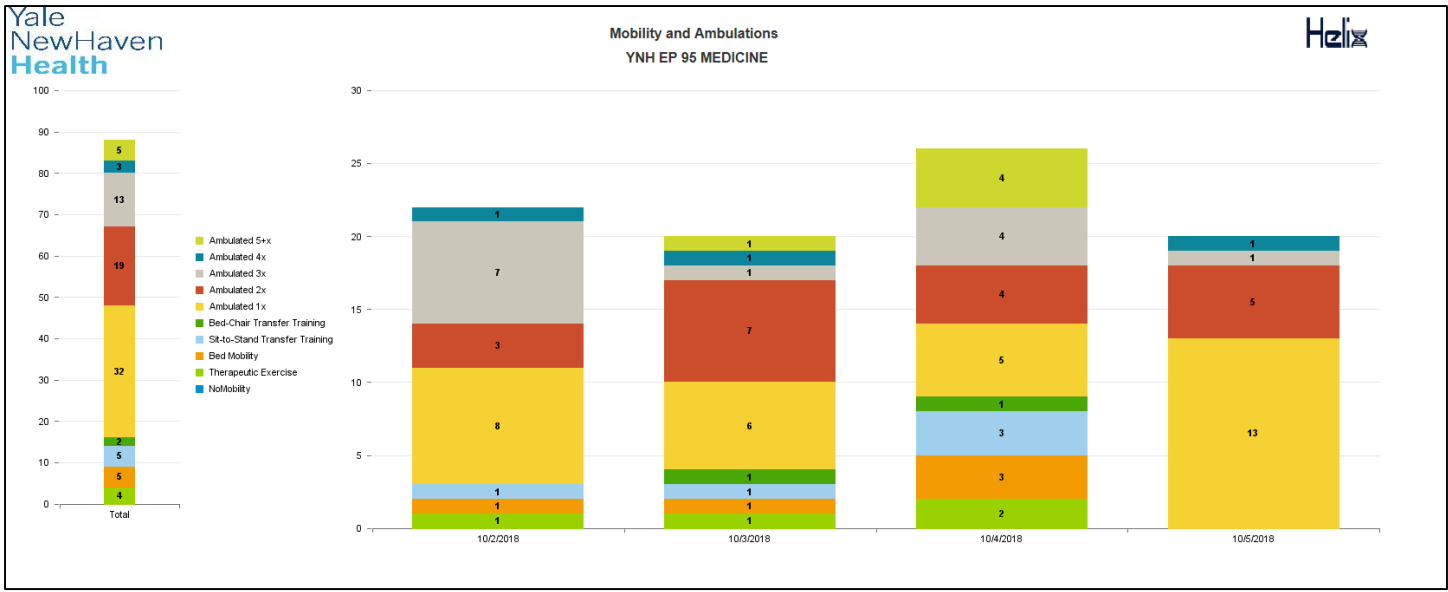
Tracking mobility retrospectively *and* in real time



AND a report run daily at 3pm by the nurse leader:

1. Patient name
2. Nurse's name
3. Mobility that day

= accountability



Opportunities for future research



Reasons for many “negative” studies after the initial few:

- Started too late
- Primary outcome not chosen well (hindsight=20/20)
- “Usual care” now includes mobilization

Future research:

1. What is the right “dose” of rehab?
(Related: how early is too early to mobilize?)
2. Risk stratification of specific populations
 - Pre-ICU vulnerability (e.g. frailty)
 - ICU variables (e.g. mechanical ventilation)
 - Critical illness diagnosis
3. Follow-up needs for ICU survivors – both in terms of post-ICU clinics and post-acute care models
4. Implementation research
 - Smaller health systems with less resources



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