

# EVALUATION OF A NURSE-DRIVEN EARLY MOBILITY PROGRAM WITH HEMORRHAGIC STROKE PATIENTS IN A NEUROSCIENCES CRITICAL CARE UNIT

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## Background

- Early mobilization in the critically ill, including neuroscience patients, has been linked to improved functional status at the time of discharge, shorter length of intensive care unit and hospital stays overall (Klein, 2015; Rand, 2015; Parker, 2013; Titsworth, 2012; Morris, 2008; Burtin, 2009).
- Early mobilization has traditionally been underutilized in neurosciences critical care units due to concerns for safety.
- Patients hospitalized in one NCCU were found to be sedentary for the majority of their time in the hospital, spending more time in bed than other patients with acute illness (Mattlage, 2015).
- A nurse-driven early mobility program incorporating unit-wide culture change was implemented in the Neurosciences Critical Care Unit (NCCU) of the Johns Hopkins Hospital in February, 2015 (see algorithm in Figure 1).
- Patients with spontaneous intracerebral hemorrhage (sICH), a type of hemorrhagic stroke, are among the most critical of stroke patients cared for in the NCCU.

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## Objectives

- To determine whether a nurse-driven early mobility program can impact the number of patients with sICH mobilized out of bed during their stay in the NCCU.
- To identify barriers to early mobility in patients with sICH.

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## Methods

- A retrospective chart review of patients with sICH admitted to the NCCU between November 2014-March 2015 (n=28) and November 2015-March 2016 (n= 29) was completed in order to characterize the mobility status of patients pre- and post-implementation of the program.
- Data analysis was undertaken to evaluate pre- and post-intervention time periods.

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## Results

- The percentage of sICH patients mobilized out of bed during their stay in the NCCU increased from 32%, prior to mobility program implementation, to 59% post-implementation ( $p < 0.046$ , 95% CI: .322-.589).
- A clinically significant increase in the entry of an activity order other than bedrest, from 68% to 80%, was noted between the pre and post implementation periods.
- Adverse events such as device dislodgement and falls did not increase between the pre- and post implementation time periods.

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## Conclusions

- A nurse-led mobility program may increase nurse-initiated mobility interventions in patients with sICH.
- Limitations of this study include small sample size and retrospective data collection. Additionally, the project focused on sICH patients specifically which may not generalize to all NCCU patients.

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## Future Directions

- A larger prospective study is warranted to evaluate outcomes in a representative group of patients with sICH and in patients with other neurologic diagnoses. Investigation of the impact higher levels of mobility have on long-term outcomes would also be relevant.
- A related study in the NCCU has been undertaken to investigate family perceptions of early mobilization. This group intends to further investigate the role of family support and involvement in mobility interventions in the NCCU.

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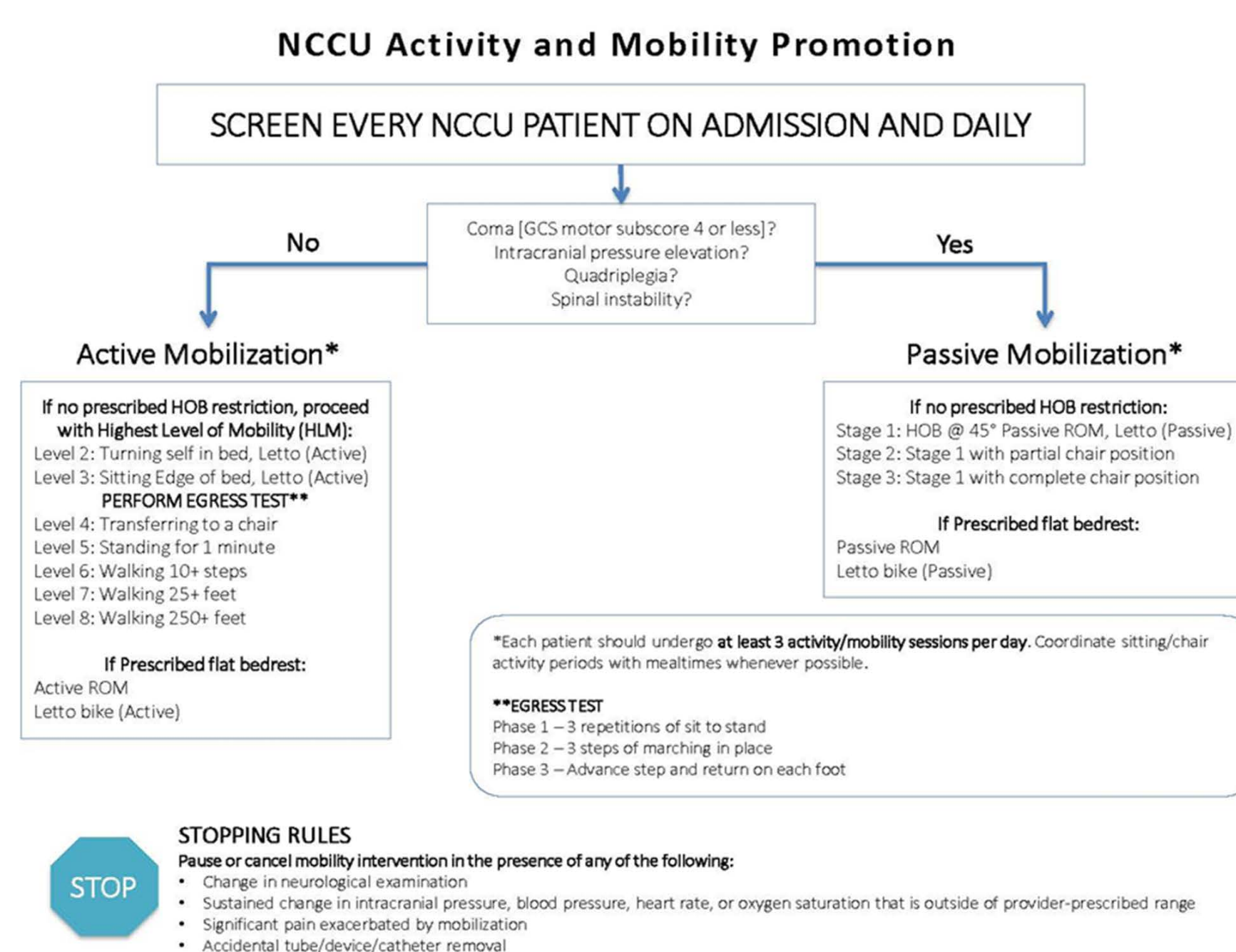


Figure 1. NCCU Activity and Mobility Promotion Algorithm

## Funding Source:

The Helene Fuld Leadership Program for the Advancement of Patient Care Quality and Safety



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