

## **EARLY MOBILITY FOR MECHANICALLY VENTILATED PATIENTS IN INTENSIVE CARE UNIT**

Chong, DYK Stanford Hospital and Clinics

Email: [dchong@stanfordmed.org](mailto:dchong@stanfordmed.org)

**PURPOSE:** The purpose of this project was to identify and examine the effect of using evidence-based early mobility guidelines for mechanically-ventilated patients in an intensive care unit (ICU) at Stanford Hospital and Clinics (SHC).

**BACKGROUND:** Adverse effects related to prolonged bed rest include pneumonia, pressure ulcers, deep-vein thrombosis, decreased flexibility and strength, and impaired physical function.<sup>1</sup> Patients after ICU stay may suffer long term complications such as neuromuscular weakness and cognitive dysfunction.<sup>2</sup> Early mobility for mechanically ventilated patients is feasible and safe,<sup>3</sup> and results in more ventilator-free days, shorter ICU length of stay (LOS), shorter hospital LOS, fewer ICU delirium and more independent functional return.<sup>4,5</sup> At SHC, there is no uniform practice for early mobility for this patient population.

**METHODS:** Literature searches for early mobilization in ICU were conducted using PubMed, CINAHL, and Cochrane Library. Search terms included early mobilization, early activity, mechanical ventilation, and ICU. The author reviewed the literature and identified patient criteria and mobility guidelines suitable for this ICU. Members of the ICU Continuous Quality Improvement Committee reviewed and revised the criteria and guidelines. The author collected two weeks of baseline information about days to first mobility and ventilator days on eligible patients. Intervention included creating a flyer to educate ICU staff, educating nurses at a change of shift meeting, and collaborating with the physician champion to identify eligible patients. In addition, the author screened for eligible patients Monday through Friday during the 3-weeks small test of change period and collected data on the two outcome measures mentioned above.

**RESULTS:** Two eligible patients were identified in the pre-implementation phase. Neither received a physical therapy (PT) order and both were on bed rest while in ICU. Days to first mobility were four and eight days post-intubation and after ICU discharge. Days on ventilator were two and three days. During the first week of the small test of change, no eligible patient was identified. The author and the physician champion agreed to modify two of the patient inclusion criteria, which resulted in the identification of two eligible patients. Both patients received a PT and an activity order while in ICU. Days to first mobility were six and three days. Days on ventilator were seven and five days.

**DISCUSSION & CONCLUSION:** There was inadequate number of patients during the small test of change period to examine the effects of this mobility guideline in this patient population and this ICU. In addition, patients in the pre- and post-implementation phase were not comparable due to the change of criteria. Nonetheless, preliminary results indicated early mobility in this ICU is feasible and safe. Suggestions for next steps include continuing this project on this unit, conducting the project in another ICU where there are more eligible patients, and expanding the idea of a mobility guideline to other ICU patient populations to promote early mobility.

**Reference:**

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