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Implementing a Physical Therapy Driven Early Mobility Protocol Significantly Decreased Hospital LOS of Patients on Mechanical Ventilation

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Introduction

- Historically, early mobilization in the ICU was common practice.
- Recent evidence indicates that reviving principles of early mobility within the intensive care unit (ICU) may decrease both ICU duration and hospital length of stay (LOS).
- Our goal was to determine if using a physical therapy (PT) driven early mobility protocol, along with early ambulation with mechanical ventilation, and with respiratory therapy assistance, would result in decreased ICU LOS, days on mechanical ventilation (MV) and hospital LOS at a university affiliated ICU

Study Design and Results

- Our study included all medical patients admitted to the Medical/Surgical ICU at Lehigh Valley Health Network, Allentown PA (n=1298).
- Surgical patients (n=101), patients without PT orders (n=478), patients readmitted to the ICU (n=33,) patients transferred among multiple ICUs (n=38) and patients whose PT orders were not placed until after leaving the ICU (n=129) were excluded from the study.
- Patients ambulated with mechanical ventilation or high flow oxygen (n=36).
- For 10 weeks (intervention period) we increased the PT staffing ratio in the ICU from 0.7FTE/36 patients to 4 FTE/36 patients and compared this to the 10 week period prior to intervention (control group 1) and 10 week period post intervention (control group 2). We evaluated LOS in the hospital, LOS in the ICU and number of days on MV.

Table 1. Study Results

	Control Group 1 n=147	Intervention Group n=215	Control Group 2 n=124
Hospital LOS	14.0 +/-13.1 days	10.6 +/-10.1 days p=0.001	12.0 +/-9.2 days
ICU LOS	6.4+/-9.1 days	5.0+/-8.0 days p=0.07	5.1 +/- 5.1 days
Mechanical Ventilation Patients	62	58	60
Mechanical Ventilation Duration	10.0 +/- 10.6 days	6.9 +/-11.1 days p=0.06	6.4 +/- 5.6 days

53% of physical therapy work load was mechanically ventilated patients during study time frame

Discussion and Conclusions

DISCUSSION

- In a post study analysis 23% of mechanically ventilated patients were mobilized on a given day. 86.6% of mechanically ventilated patients who were mobilized did activities in bed or dangled at edge of bed.
- 48.3% of mechanically ventilated patients who were mobilized did activities in bed. 11.7% of mechanically ventilated patients were ambulated.
- Physical Therapists are trained to identify somatic disorders and implement a plan of care that progresses a patient from debilitation to independence. Respiratory Therapists are trained to assess a patient's work of breathing and provide clinical interventions to maintain or reduce any increase in work of breathing

CONCLUSION

- In this study of 486 patients, we found implementing a PT driven early mobility protocol significantly decreased hospital LOS.
- To optimize patient outcomes a multidisciplinary approach to patient mobility should be advocated, even in this era of scare resources.