



A CNS-Led Intervention To Improve Rates Of Respiratory Mechanical Device-Related Pressure Injuries in Critically Ill Patients

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Background & Significance

In 2020, the first international group of healthcare experts gathered to develop a comprehensive consensus statement on medical device-related pressure injuries (MDRPI) and validated the assumption that most are associated with respiratory devices.

Several factors make critically ill patients more vulnerable:

- inability to shift position independently
- long device use time
- medical incapacity that impedes ability to sense tissue changes
- fear of unintentional device dislodgment, which leads to tight or forceful placement

Purpose

The purpose of this quality improvement project is to implement a bundle of interventions to improve the rates of mucosal and pressure injuries associated with endotracheal tubes (ETT) and their fasteners in critically ill patients.

Methods

- IOWA Model for Evidenced-Based Practice to guide intervention
- Two 14-bed medical/surgical intensive care units (M/SICU) within a 912-bed Mid-Atlantic Level-1 trauma academic and research medical center
- Pre- and post-intervention surveys of nursing comfort with safe manipulation and movement of ETT and their fasteners, documentation compliance, and barriers to implementation
- Job aids and anatomical head model with ETT and fastener for practice with movement
- Turn clock for movement over 24 hours, with all ETT on the unit to be in the same location, providing a visible cue that the device has been moved and the assessment completed
- Chart auditing to monitor documentation compliance

Figure 1

Impact of Harm



Photograph utilized for educational purposes

Figure 2

Survey Results

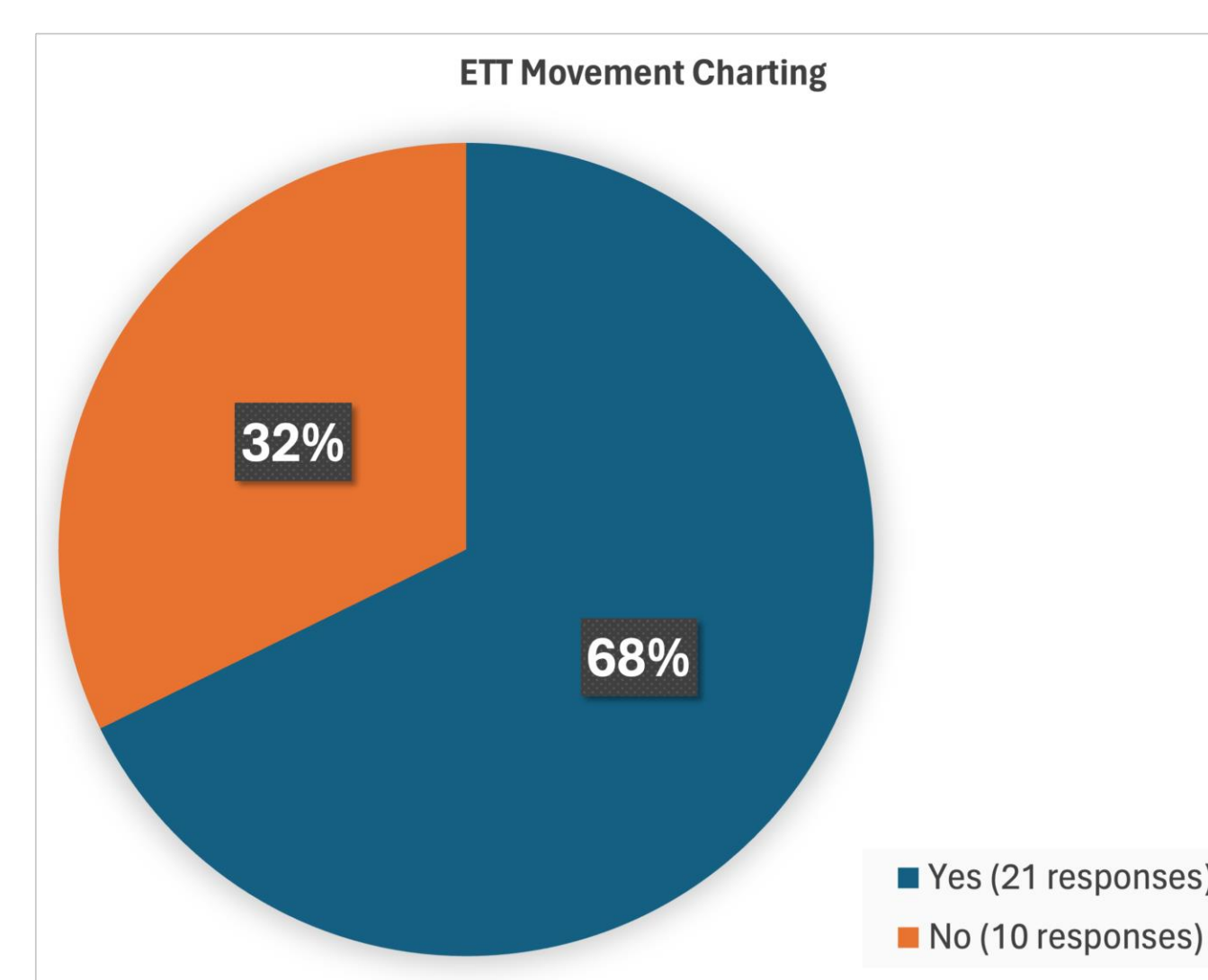
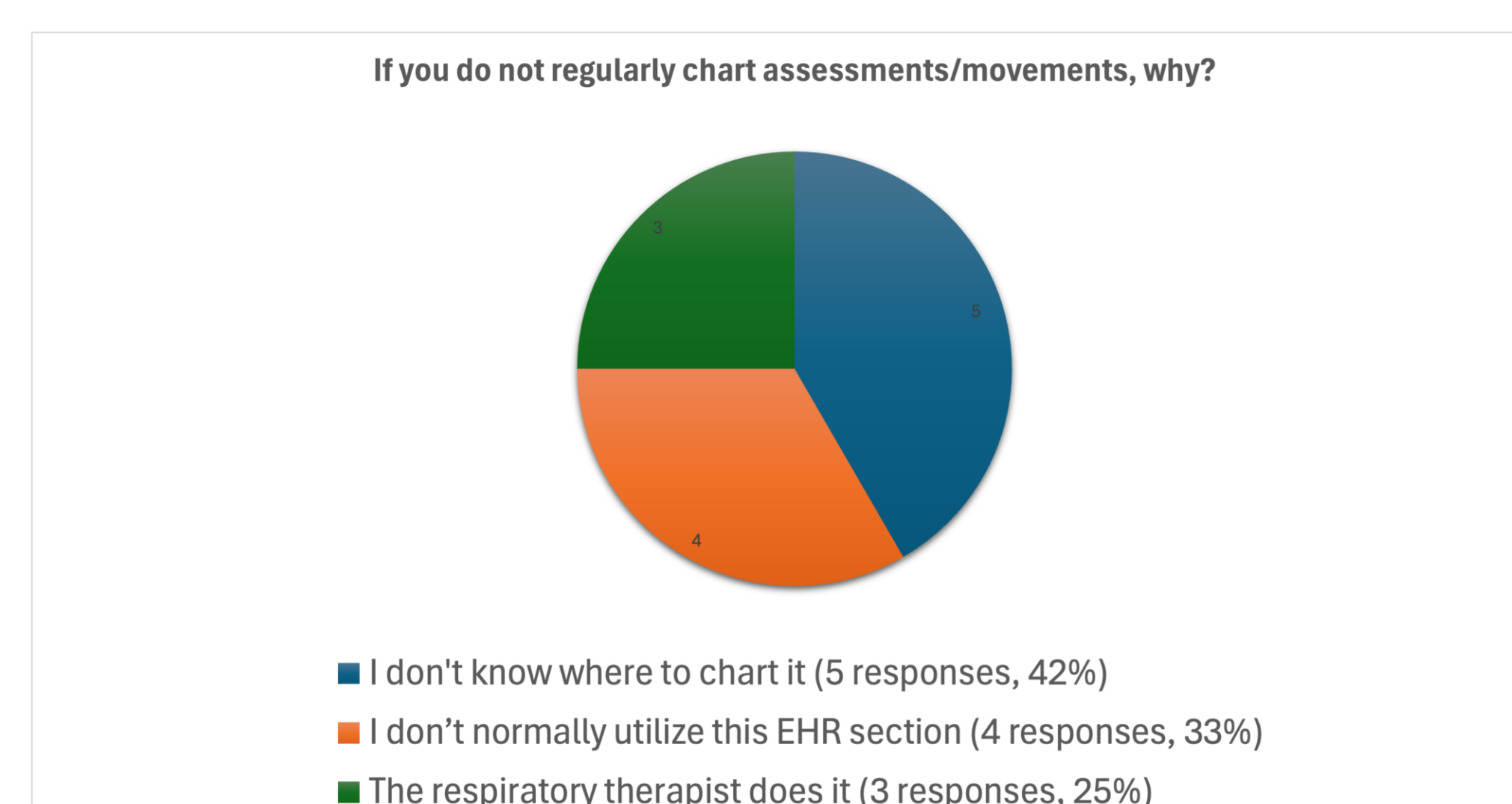


Figure 3

Survey Results



Acknowledgments

Faculty Advisor: Jackeline Iseler, DNP, MSN, RN, ACNS-BC, CNE

Community Advisor: Gwendolyn Mulholland, MSN, APRN, AGCNS-BC, CMSRN, CWOCN

Results

A pre-implementation survey was made available to nurses in the hospital's seven ICUs.

- 76 responses
 - 16% (12 nurses) did not feel comfortable manipulating ETT; 11 said that safety concerns prevented them from moving the ETT

A post-implementation survey was completed on the two units where the intervention took place.

- 31 responses
 - Nurses feel comfortable moving the ETT (30)
 - Nurses feel they regularly chart skin/tissue assessments (27)
 - However, nurses don't often chart ETT movement
 - They do not know where to chart
 - It's in an area of the EHR they don't normally utilize
 - The respiratory therapist charts this information

81 patient charts were reviewed for documentation compliance from October 2023 to January 2024.

- 62 charts did not include ETT movement
- 77 charts did not have peri-oral/mucosal tissue assessments

Three ETT and fastener-related pressure injuries in three months before the intervention.

Zero ETT and fastener-related pressure injuries during the intervention.

Conclusions & Implications

Nursing comfort with safe ETT and fastener movement is improved, based on survey results.

Documentation compliance continues to be problematic. The post-intervention survey included a question about documentation barriers, finding that nurses feel it is difficult to complete as it is in an area of the chart that they don't normally utilize, while others felt that it was the respiratory therapist's task.



References

For a complete list of references, please scan the adjacent QR code!