

Problem Statement

- Adults admitted to a Cardiac Care Unit (CCU) experienced prolonged intubation times as evidenced by 5.0 ventilator days in 2021 and 4.8 ventilator days in 2022 as compared to 4.33 to 4.62 days nationally in similar settings.
- Prolonged duration of intubation can lead to increased length of stay, hospital costs, ventilator dependence, and likelihood of reintubation.

Purpose & Project Goals

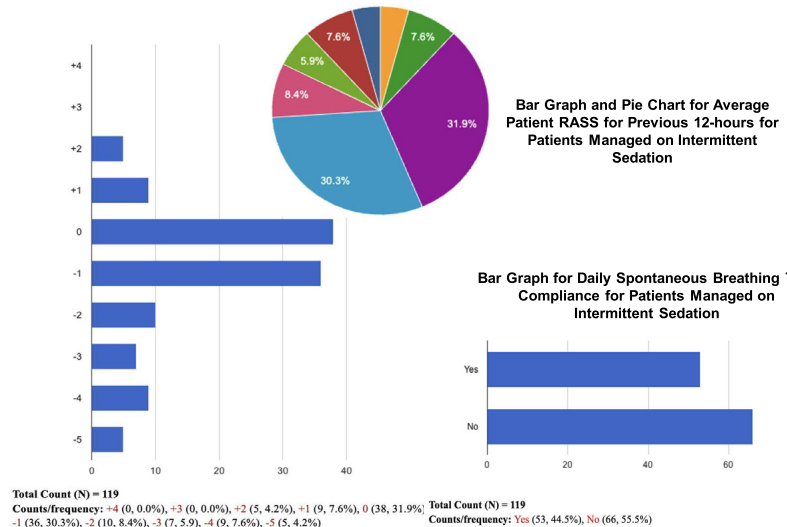
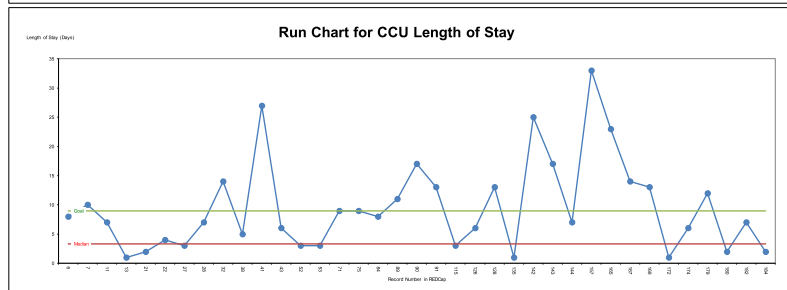
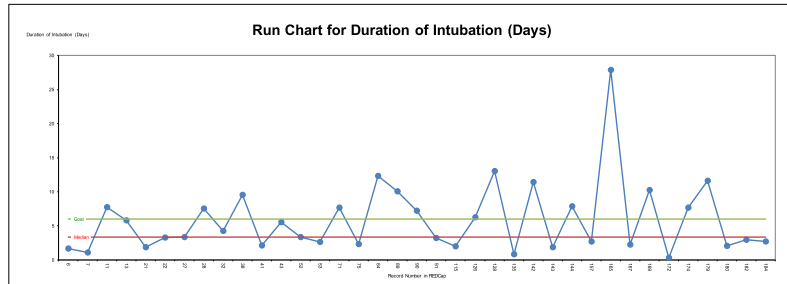
- Purpose:** The purpose of this quality improvement (QI) initiative is to transition practice from utilizing high-dose continuous sedation for intubated patients to a nurse-driven intermittent sedation algorithm to reduce the duration of intubation for adults admitted to this unit.
 - Evidence shows that utilizing intermittent sedation reduces the complications of intubation including delirium, immobility, and inappropriate sleep-wake cycle.
- Process Goal:** 100% of ventilated patients who meet eligibility criteria in a cardiac care unit will be managed on the established intermittent sedation protocol.
- Outcome Goal:** The duration of ventilation for adults in a cardiac care unit will be reduced by 15% compared to historic data from 2021 and 2022.

Methods

- Setting, Timeframe, & Population:** This project was implemented over a 15-week period in a Cardiac Care Unit (CCU) for adults requiring intubation with a prescriber ordered RASS goal of 0 or -1.
- Intervention:** Utilization of a nurse-driven intermittent sedation protocol. Eligible patients were managed on this nurse-driven intermittent sedation protocol to decrease the amount of sedation used which in turn would reduce duration of intubation. Compliance and data were tracked daily via chart audits by the project lead.

Results

- Per the EMR, the calculated ventilator days during the project implementation period was **6.46 days**.



Discussion

- Ventilator days increased during the project implementation period. There are a variety of reasons this may have occurred including shortened data collection time, inability to extubate due to the patient's clinical status, and increased incidence of intubation during respiratory virus season.
- Out of a total of 182 total records, 119 patients (**65.4%**) were managed on the nurse-driven intermittent sedation protocol.
- Most patients (**31.9%**) had an average RASS score of 0 (alert and calm) followed by **30.3%** of patients with a score of -1 (drowsy). This means the majority of patients (**62.2%**) had RASS scores of 0 or -1 which was one of the project's goals.
- 55.5%** of patients managed on intermittent sedation did not have a daily SBT completed. This was due to a variety of reasons including hemodynamic instability, neurologic exclusions, ventilator settings that exclude such as PEEP greater than 8 or FiO2 greater than 50%, or other condition excluding the patient from daily SBT.

Conclusions

- Recommendations:** Future QI projects should be implemented over a longer period to ensure more accurate and generalizable results.

References & Acknowledgements

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