

Abstract Title:

Decreasing Unplanned Extubations in a Level III Neonatal Intensive Care Unit

Author Information:

Aamir* Ansari*, MD
Neonatology Fellow
Harbor UCLA Medical Center

Co-Authors:

Elizabeth Tru, RCP Guadalupe Padilla, MD

Abstract Description:

Background: In intubated infants, unplanned extubations (UEs) are associated with multiple adverse consequences such as aspiration pneumonia, airway injury, intraventricular hemorrhage and cardiorespiratory arrest. Unplanned extubations are the 4th most common adverse event in NICU. After review at our multiple Mortality & Morbidity Conferences, it became evident that UEs offered an opportunity for improvement.

Objective: Primary Aim: Decrease the incidence of UEs, with an ideal goal of zero

Design : A focused evaluation of UEs started in March 2017. Using the PDSA model, we measured rates of UEs before and after changes in practice.

Setting: Harbor UCLA Medical Center

Patients: All intubated neonates **Intervention:** Initial concern with materials used in securing the endotracheal tube (ETT) prompted a change in the tape used, as it was felt to have decreased adhesiveness. Multiple local NICUs were queried to determine if their experience was similar. In May 2017, new tape and consistent technique for securing ETT were shared with nursing and respiratory therapists (RTs) via both poster and hands-on education. Cards were placed at each bedside to ensure that the size and depth of ETT were appropriate. The concepts of “two-person procedure” and “see something, say something” along with every 2 hour recording of ETT position and security by the RTs were introduced.

Measurements: UEs were tracked via hospital significant event reports and data collection sheets documenting circumstances surrounding the UE (date/time of last re-taping, level of patient activity, patient handling and personnel present at bedside). CPQCC data was used to determine NICU ventilator days.

CAN 2019

Baseline data: From December 2016 to May 2017, the UE rate was 3.1 per 100 ventilator days.
Post-Intervention data: From June 2017 to December 2017, the UE rate decreased to 2.5 per 100 ventilator days.

Limitations: Limitations noted were a small sample size, minimal documentation in EMR, and inconsistent recording of data around events leading to UEs.

Conclusion: In this on-going project, the frequency of UEs decreased by approximately 20% during PDSA Cycle #1. Since UEs often occurred during re-taping or patient positioning, in addition to reinforcing the practices and techniques used in Cycle 1, in Cycle 2 we are instituting a real-time de-briefing with staff involved each time an UE occurs with emphasis on the need for timely and detailed documentation.