Determining Unintended Extubation Rate in a Level IIIb NICU

Emily Campbell, BSN RN, Jilliane Krause, MSN RN, Christina Billy, BSN RN, Jaideep Singh, MD, Kelly Nelson Kelly, MD, Joan Liput, MBA, Allison Bartlett, MD, Joseph R. Hageman, MD
University of Chicago Medical Center

Problem

• Unintended extubation (UE) rate is a reflection of best practice of airway management in the neonatal intensive care unit (NICU)
• It is defined as UE/invasive ventilator days and is used in NICUs in the United States as a reflection of best practice

Goal

• Goal #1 is to organize deidentified access to the University of Chicago RedCap system to document UEs by the bedside nurse after a short post extubation debrief
• Goal #2 is to document invasive ventilator days as the denominator for UE/Vent days = UE rate
• The best practice rate is < 0.5/100 vent days

“Intervention Design”

Part 1: Unintended Extubation Data Collection Tool

• Define unintended extubation
  • Not part of the plan of care
  • No provider order

• Identify priority data for ease of use and timely collection
  ✓ Date and time of unintended extubation
  ✓ Medical record number
  ✓ Activity during unintended extubation
  ✓ Manual ventilation required?
  ✓ Reintubation required?
  ✓ Resuscitation required?

• Limit discoverability
  • Worked with med-legal
  • Survey is anonymous
  • User is taken out of the EMR and into RedCap

• Educate staff on use of tool
  • Who should fill out the tool?
  • What constitutes an unintended extubation?
  • When should the tool be filled out?
  • Where is the tool found?
  • Why do I need to report an unintended extubation?
  • How are we going to create a culture change around unintended extubations?

“Results to Date”,

November 2018:
• Extubation data link live in EPIC

November 2019:
• Invasive ventilator row live in EPIC

January 2020:
• Manual counts for 2019 data complete
• UE Rate is 0.49/100 vent days

Conclusions and Next Steps

• Thus far, our UE has been in the best practice range.
• However, we are working to refine the documentation process for each unintended extubation and for total invasive ventilator days

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