Neonatal Intubations: Standardizing Care To Enhance Success and Decrease Risk Factors For a High Risk Procedure in the Neonatal Intensive Care Unit

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Background / Introduction

- Fewer opportunities to perform neonatal intubations
- Neonates in NICU setting are at risk
- Approaching lower volume procedures in standardized manner may improve outcome
Collaborative Team Members

- Tara Stroud, APP/nurse leader
- Ryan Moore, Physician
- Christy Turner, Pharmacy leader
- Meredith Mahafee, NICU Pharmacist
- Debora Williams, Respiratory Quality leader

Team Leader Key Contact Info: Tara Stroud, 816-3742, tara.stroud@vidanthealth.com
AIM Statement with Numerical Goals

The Aim Statement for my project was:

Standardize practice guidelines to increase number of successful non-emergent intubations on first attempt by December 31, 2018 by 10% for personnel while improving provider confidence level.
How Will We Know This Change Is An Improvement?

- Increase in use of sedation prior to non-emergent intubations
  - Standardize medication administration
  - Improve opportunity for success
  - Mitigate risk factors
- Increase in successful intubations on first attempt
Baseline Data

Q5 On average, how often do you have the opportunity to attempt an intubation?

- Every 6 months
- Monthly
- Yearly
Q4 How do you define an attempt at intubation?

- Laryngoscope blade placed: 85.29%
- Laryngoscope inserted AND...: 14.71%
Baseline Data

Q8 Does sedation prior to non-emergent intubation improve success in intubation?
Q7 How often do you order or request sedation prior to non-emergent intubation?

- Always: 38.24% (13)
- About 75% of the time: 38.24% (13)
- About 50% of the time: 11.76% (4)
- About 25% of the time: 8.82% (3)
- Never: 2.94% (1)
Baseline Data

Pre-procedure Interventions Prior to Elective Intubation
Pre-data

- 47% No pre-procedure intervention
- 53% Analgesia administered (Fentanyl)

N = 15 patients
July 2018 - October 2018
Improvement Strategies Employed

- **PDSA #1:** Timing medication delivery to the unit
  - Staff education to order STAT
- **PDSA #2:** Performance sheet tracking
- **PDSA #3:** Provider education regarding sedation
- **PDSA #4:** Formalize guidelines
Run Chart

Successful Intubations on First Attempt

- PDSA Med Delivery
- Time and Team Education
- Team Education and Medication Recommendations; Performance Tracking
- Formalized Practice Guidelines
Q5 On average, how often do you have the opportunity to attempt an intubation?
Outcomes

Q4 How do you define an attempt at intubation?

- Laryngoscope blade placed... 63.64%
- Laryngoscope inserted AND... 36.36%
Outcomes

Q8 Does sedation prior to non-emergent intubation improve success in intubation?
Outcomes

Q7 How often do you order or request sedation prior to non-emergent intubation?

[Pie chart showing distribution of responses]

- Always: 77.27% (17)
- About 75% of the time: 18.18% (4)
- About 50% of the time: 4.55% (1)
- About 25% of the time: 0%
- Never: 0%
Post Intervention Percentage of Analgesia

Pre-procedure Interventions Prior to Elective Intubation
Post-data

- No pre-procedure intervention: 26%
- Analgesia administered (Fentanyl): 74%

N = 28 patients
November - December 2018
Challenges Encountered in QI Process

- Culture
- Documentation
  - Definition of attempt
  - Data validation
- Competing priorities for team leaders
Lessons Learned Through QI Efforts

Team Leaders Lessons

- Start small
- Validate your data
- Consider the size of your team

Staff Lessons

- Belief is not reality
- Ability may not be as high as perceived
Next Steps

- Ongoing monitoring of intubation attempts
- Continue reviewing guideline usage
- Areas of opportunity
  - Further define attempts
  - Potential need for competency revisions
Questions?

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