There is minimal scientific evidence available to defend the use of routine suctioning in the NICU setting. An extensive review of the literature revealed a lack of standardized criteria or guidelines for suctioning in the NICU (Gardner & Shirland, 2009). Most literature indicates the harmful effects of suctioning including bradycardia, desaturation of oxygen, apnea, inflammation of airways, and/or bronchospasms.

### ABSTRACT

At the conclusion of this study, researchers will be able to:
- Describe the current practice for suctioning neonates
- Describe outcomes related to suctioning neonates
- Describe clinical implications for suctioning neonates

### RESEARCH OBJECTIVES

- A descriptive, retrospective chart review to analyze airway clearance practices in a level III regional NICU
- Sample size: N=87, Suctioning events: N=384
- Practices reviewed: suctioning via inline suction, suction catheter, soft tip “Little Sucker”, and bulb syringe to determine the frequency, color, consistency, and tolerance of airway clearance
- Convenience sample; admissions between 2016-2017
- Inclusion criteria: 32-36 weeks/6 days, or moderate to late preterm infants as defined by WHO
- Exclusion Criteria: surgery with general anesthesia. No participant was excluded based on age, gender, or ethnicity.

### RESULTS

- Participants: Female (47%), Male (53%); Males in the suctioned population required more ventilatory assistance
- Birth model of neonates requiring airway clearance: Vaginal birth (34.5%) Cesarean section (65.5%)
- Most occurrences of airway clearance - 34 weeks gestation
- 85% of participants experienced ventilatory assistance: Ventilator (45%), CPAP (37%), HFNC (2%), NIPPV (1%)
- Suctioning modes were: Oropharyngeal (46%), Inline (28%), Nasopharyngeal (6%), Endotracheal (8%) Bulb syringe (11%)
- After suction events, nurses reported: No distress (74%), Equal bilateral breath sounds (30%), Desaturation (6%), Color change, apnea, or bradycardia (<1%)

### METHODS

- Electronic medical records promote less detailed, narrative documentation and more button focused charting. This could hinder the evidenced-based use of airway clearance of the NICU patient
- Results indicate the routine use of airway clearance (without indication) in the NICU setting as evidenced by no indication of distress (74%) and breath sounds clear and equal immediately after suctioning in 30% of events
- More studies are needed to evaluate suction practices applied in the NICU setting

### CONCLUSIONS

- Suggest careful review of EMR documentation related to airway clearance
- Review and revise unit-based protocols for airway clearance of the NICU patient based on mode of suctioning which are in alignment with NANN guidelines
- Provide on-going unit-based staff education and competency evaluation related to airway clearance of the NICU patient