SPECIALIZED CARE FOR THE EXTREMELY LOW BIRTH WEIGHT INFANT

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SESSION OBJECTIVES:

- Identify key stakeholders during early discussions of a small baby program to help develop specific guidelines to improve consistent care, as well as criteria for admission and graduation from a small baby program
- Discuss the importance of incorporating unit specific outcome data as well as national benchmarks during planning phase of a small baby program
- List benefits of 1:1 nursing for VLBW infants during admission, around extubation, and its effect on patient outcomes





WHAT IS A SMALL BABY UNIT/PROGRAM

- Extremely low birth weight infant less than 28 0/7 weeks and less than 1000 grams at birth
- Cohort of ELBW infants by geography in a specific part of the NICU
- Cared for by a specifically trained multi-disciplinary team
- Following evidence-based standardized guidelines

WHERE SHOULD ELBW INFANTS BE CARED FOR

- Level III or IV NICUs
- Maternal transport prior to delivery to a maternity center with Level III/IV NICU is preferred if possible
- If unable to transport prior to delivery, consult with OB at tertiary center to ensure care of the mother will give the infant the best outcome
- Transport as soon after delivery as stable



WHY START A SMALL BABY PROGRAM?

- Preterm birth rate still increasing in the US
- Increasing survival rates for ELBW infants
- Variation in outcomes
- Variation in practices amongst providers

- Chatterjee, R. (2018). National Public Radio
- Chawanpaiboon, S. Lancet Global Health, 7:e37-46.
- March of Dimes (2019). 2018 Premature birth report cards.
- Witt, W.P., et al. (2014)(. American Journal of Public Health, February; 104(Suppl 1): S73-80.





IMPLEMENTATION OF SMALL BABY PROGRAM AT TEXAS CHILDREN'S HOSPITAL





UNIT SPECIFIC DATA/OUTCOMES

- Research organizational data/outcomes of ELBW infants to identify gaps
- Complete a literature search on Small Baby Units/ Programs to identify what worked well (and did not work well) for other NICUs
- Ensure you have a strong partnership between medical and nursing leadership from the beginning





Mission

To foster evidence-based care of ELBW infants in a family centered environment

MISSION, VISION **VALUES**

Vision

To have the best clinical outcomes possible for ELBW infants born in our newborn center, as determined by key performance measures tracked by the Vermont Oxford Network

Values

Respect, Teamwork, Excellence







A focused program to care for ELBW infants to improve key outcome measures (VON definitions)

This program will focus on **preterm** infants ≤ 28 weeks or ≤ 1000 g.

We have completed the guidelines for the program and are currently hosting education sessions

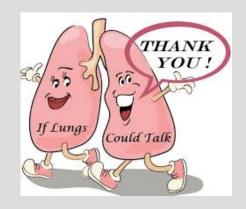
NEWBORN (





1:1 NURSE STAFFING

- Shift in respiratory care of the ELBW
 - CPAP first
 - Lung protective "gentle" mechanical ventilation
 - SpO2 target range 90% to 95%
- Goal: to staff 1st 72 hours of life as 1:1
- Goal: to staff 1st 72 hours of CPAP as 1:1



IMPLEMENTATION-COMMITTEE FORMATION

- Committees:
 - Workflow process
 - Guidelines
 - Education
 - Outcomes
 - Compliance





WORKFLOW COMMITTEE

- Medical and nursing leadership, NNPs, bedside RNs
- Physical Location of cohort
- Medical teams
- Bedside RN how many and minimum qualifications
- **Ancillary staff**
- Discharge criteria
- Go Live



GUIDELINES COMMITTEE

- Need to have medical and nursing leads to review all written guidelines
- Subcommittees write guidelines based on their expertise
- Subcommittees need to be multidisciplinary if possible



EDUCATION COMMITTEE

- Composed of NNPs, MDs, RNs, Educator, CNS
- Collated all information from subcommittees and developed education
- Developed multidisciplinary sessions prior to go live
- Develop ongoing education

EXAMPLES OF PRESENTATIONS



190 views

- Didactic Presentations
- Simulation Videos
- **Interactive Games**
- Hand-on Demonstration







OUTCOMES & COMPLIANCE COMMITTEES

- Consider what to measure
 - Physiologic data
 - Infant outcomes
- How to measure
 - Where will data come from chart review versus EMR
- Adherence to guidelines/protocols





OUTCOMES

- Infant Outcomes
- Evaluation of Resource Utilization
- Family Satisfaction
- Staff Satisfaction



COMPLIANCE

- Discontinuation of PICC lines
 - Goal: Removal when infant reaches 120 ml/kg/day of enteral feeds
- Antibiotic initiation
 - · Goal: Initiation of administration of first dose within 1 hour of order placement
- Humidity
 - Goal: Humidity initiated and maintained at 80-85% for first week of life
- "Top Down"
 - Goal: By 1 hour of life; top up 1 time or less within 1st 6 hours for umbilical line placement; top remains down for 1st 6 hours who infants who have lines placed in DR
- Shuttle Use
 - Goal: Used for all non-emergent delivery resuscitations





SBP TIMELINE

	Dec 2018	Jan 2019	Feb 2019	March 2019	2019
Guidelines					
Education					
Workflow					
Neuro-dev					
Research oversight					
Compliance					
Outcomes					





GRADUATION FROM SBP

- 32 weeks and 1250 grams
- Celebrate big milestone for parents
- Graduate to the general area of the NICU or a step down unit
- Complete handoff provided to new medical and nursing team



RESOURCES:

 Morris, M., Cleary, J.P., & Soliman, A. Small Baby Unit Improves Quality and Outcomes in Extremely Low Birth Weight Infants Pediatrics 2015; 136; e1007



QUESTIONS/COMMENTS



