

# 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 CAREED 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.

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# IMPLEMENTATION OF SMALL BABY PROGRAM AT TEXAS CHILDREN'S HOSPITAL

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# 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, VISION AND VALUES

## Mission

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

## 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



# SB P

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

This program will focus on **preterm infants**  $\leq 28$  weeks or  $\leq 1000$  g.

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

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# 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 1<sup>st</sup> 72 hours of life as 1:1
- Goal: to staff 1<sup>st</sup> 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



Delivery Room Management for Small Babies



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

Respiratory Care	Unplanned Extubations	Oxygen	Kangaroo Care	Extubation Readiness
<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>10</u>
<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>
<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>
<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>	<u>50</u>



# 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 1<sup>st</sup> 6 hours – for umbilical line placement ; top remains down for 1<sup>st</sup> 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
<b>Guidelines</b>					
<b>Education</b>		→			
<b>Workflow</b>					→
<b>Neuro-dev</b>					→
<b>Research oversight</b>					→
<b>Compliance</b>					
<b>Outcomes</b>					→

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# 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

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