Newborn Critical Care Center (NCCC) Clinical Guidelines

ELBW Delivery and Admission Role Assignments

Two Experienced Providers (Attending, NNP, Fellow):

- **Leader** – Directs the Golden Hour from delivery through completion of admission according to ELBW guideline and algorithm

- **Provider #2** – Assumes responsibility for the head of the bed during delivery and line insertion in the NCCC

**These roles are interchangeable but the **Goal** is for the leader to remain the leader throughout the Golden Hour

Responsibilities of Roles:

1. **LEADER** to coordinate huddle with Golden Hour team when delivery imminent:
   a. Determine respiratory plan
   i. (CPAP or intubation for 25 weeks gestation based on risk factors)
   b. Discuss any special circumstances such as fetal anomaly
   c. Review roles/responsibilities
   d. Ensure “shared mental model”

2. **Provider #2** gather, open, prepare umbilical line equipment when delivery imminent

3. **Provider #2** coordinate setting up camera for video of resuscitation and admission

4. **Provider #2** check resuscitation equipment on arrival for delivery

5. **LEADER** to ensure infant is stimulated during delayed cord clamping and communicate need to intervene if infant requires immediate resuscitation

6. **LEADER** to direct team through resuscitation and admission according to algorithm

7. **Provider #2** head of the bed and intubation
   a. **LEADER** to provide back-up intubation/switch roles

8. **LEADER** to update and ensure infant is shown to parents prior to transporting to the unit
   a. After infant is stable, collect cord blood from placenta and maternal identification sticker for ABO/Rh tube

9. **LEADER** to place ELBW orders on arrival to the unit
   a. STAT order-set **FIRST**: labs, antibiotics, line placement film

10. **Provider #2** insertion of umbilical lines
    a. **LEADER** to provide back-up line insertion/switch roles

11. **LEADER** to interpret radiograph for line placement and retain or dismiss x-ray technician once line placement confirmed

12. **Provider #2** update mother, obtain blood consent, discuss initiation of pumping and use of maternal and donor breast milk

13. **LEADER** after completion of Golden Hour, sign out to admitting provider and organize debrief
Nurses

Shared Nursing Roles Prior to Delivery

- Set-up bed space including priming all fluids
  - (D10W for PIV with medline, D10W with AA, Isotonic AA)
- Set-up and check all delivery room equipment including ELBW specific items (warming mattress, temp probe, PIV materials)

Nurse #1

- Start APGAR timer at delivery
- Assist with resuscitation (aiding providers under direction, auscultation of breath sounds and heart rate)
- Insert PIV
- May switch out with Nurse #2 if unsuccessful PIV attempt or uncomfortable with attempting
- Assist with lines/drugs as needed

Nurse #2

- Re-check resuscitation equipment on arrival for delivery
- Temperature advocate (places probe, ensures probe stays on, maintains plastic wrap coverage as much as possible with hat on top if no CPAP, takes DR temperature, etc.)
- Apply pulse oximeter and cardiorespiratory leads
- Assist with intubation
- Measure infant’s temperature

Shared Nursing Roles on Admission

- Weigh infant on transfer to open isolette
- Temperature advocate (maintain infant on warmer mattress and wrapped in clear plastic)
- Obtain measurements and admission vitals
- Place on monitors
- Connect fluid and medication line to PIV and begin D10W at ~60mL/kg/day
- Secure infant for umbilical line placement
- Send STAT labs immediately after provider obtains umbilical arterial access
- Initiate antibiotic administration
  - On admission if culture obtained from cord blood
  - Or immediately after blood culture obtained during line placement
- STAT page for umbilical line film when provider begins to suture
- Secure umbilical lines and connect new fluids
- Administer Vitamin K and erythromycin
- Close isolette and initiate humidity once all tasks completed and temperature stable
Respiratory Therapists

- Set up ventilator and bubble CPAP in the unit
- Bring pre-warmed surfactant to all deliveries < 27 weeks gestation
- Ensure oxygen is initially set at 21%; adjust as indicated during resuscitation
- Place duoderm if infant requires intubation, taping and securing ETT
- Administer surfactant
- When airway secured take position at head of the bed to continue PPV or CPAP and maintain during transport from the DR to the unit
- Connect infant to ventilator or bubble CPAP once back in the unit
- Adjust oxygen during line placement
- Run POC arterial blood gas during umbilical line placement
- Adjust ventilator following ABG per provider instruction during umbilical line placement
<table>
<thead>
<tr>
<th>Pre-delivery</th>
<th>Leader/Provider 1</th>
<th>Provider 2</th>
<th>Respiratory Therapist</th>
<th>Nurse 1</th>
<th>Nurse 2</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Prepare team</td>
<td>Set up umbilical line supplies near admission bed space</td>
<td>Set up CPAP &amp; ventilator at admission bed space</td>
<td>Prepare delivery room equipment</td>
<td>Set-up bed space</td>
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<td></td>
<td>Discuss respiratory plan &amp; any special considerations</td>
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<td>Prepare surfactant</td>
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<td>Warm IV fluids &amp; prime all IV tubing</td>
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<td>Lead just-in-time simulation</td>
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<tr>
<th>Delivery</th>
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<tbody>
<tr>
<td></td>
<td>Encourage stimulation during delayed cord clamping</td>
<td>Set up camera</td>
<td>Set oxygen at 21% initially &amp; adjust during resuscitation</td>
<td>Start/announce APGAR time</td>
<td>Re-check all resuscitation equipment</td>
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<tr>
<td></td>
<td>Direct the team during resuscitation</td>
<td>Clear air way</td>
<td>Secure CPAP &amp; monitor/maintain PEEP</td>
<td>Auscultation of breath sounds and heart rate</td>
<td>Temperature advocate</td>
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<td></td>
<td>Back-up provider intubating infant (switch roles if needed)</td>
<td>Provide immediate CPAP or intubation based on respiratory plan &amp; NRP</td>
<td>Place protective barrier, secure ETT, &amp; give surfactant if intubated</td>
<td>Insertion of PIV</td>
<td>Apply pulse ox &amp; CR leads</td>
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<td></td>
<td>Obtain cord blood and maternal sticker for ABO/Rh tube</td>
<td>Provide PPV as indicated</td>
<td>Maintain airway once established</td>
<td>Assist with lines/drugs if needed</td>
<td>Assist with intubation if needed</td>
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<td>Update parents</td>
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<td>Ensure parents see their infant prior to transport to the unit</td>
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<tr>
<th>Admission</th>
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<tbody>
<tr>
<td></td>
<td>Admitting provider performs examination</td>
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<td>Connect to ventilator or CPAP</td>
<td>Temperature advocate</td>
<td>Transfer to open isolette &amp; weigh infant</td>
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<td></td>
<td>Place admission orders</td>
<td>Line placement with assistant</td>
<td>Adjust oxygen</td>
<td>Obtain measurements &amp; admission vitals</td>
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<tr>
<td></td>
<td>Look at x-ray/dismiss technician</td>
<td>Adjust lines</td>
<td>Run POC gas and adjust ventilator per provider instructions</td>
<td>Place on monitors</td>
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<td>Connect IV fluid with medication line to PIV</td>
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<td>Secure infant for line placement</td>
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<td></td>
<td>Send STAT labs during line placement</td>
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<td>Initiate antibiotics after blood culture obtained</td>
<td>Initiate antibiotics after blood culture obtained</td>
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<td></td>
<td>STAT page x-ray technician when ready</td>
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<td></td>
<td>Connect central IV fluids once umbilical lines confirmed</td>
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<td>Administer erythromycin &amp; Vitamin K</td>
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<td>Sign out to admitting provider</td>
<td>Update family, obtain consent for blood transfusion, encourage initiation of pumping, discuss use of donor breast milk as bridge</td>
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<td>Close isolette and initiate humidity once all tasks are completed and infant’s temperature is stable</td>
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