## Admission Process for Premature Newborns <32 Weeks Gestation or <1500 Grams Birth Weight

<table>
<thead>
<tr>
<th>Job Sequence</th>
<th>Key Points</th>
<th>Rationale</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>Notification of NICU of Impending Delivery of Premie &lt; 32 weeks gestation or &lt;1500 grams BW</strong></td>
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<td><strong>L&amp;D RN will:</strong></td>
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<td>● Notify NICU charge RN re: impending delivery of a premature newborn.</td>
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<td><strong>OB attending will:</strong></td>
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<td>● Notify the neonatologist of impending delivery of premature newborn, maternal history, estimated fetal weight, other conditions that might affect resuscitation, etc.</td>
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<td><strong>Neonatologist will:</strong></td>
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<td>● See mother and/or significant other to:</td>
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<tr>
<td></td>
<td>o Introduce himself/herself</td>
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<tr>
<td></td>
<td>o Explain management plan and all possible outcomes</td>
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<td></td>
<td>o Answer questions</td>
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<td></td>
<td>o Care of the infant during delivery and expected NICU course</td>
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<td>2</td>
<td><strong>Preparation for Premie delivery by L&amp;D RN</strong></td>
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<td><strong>L&amp;D RN will:</strong></td>
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<td>● Make sure that all supplies and equipment needed for resuscitation are in the radiant warmer by using the Supply/Equipment Checklist for Premie Delivery. (See attached Checklist)</td>
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| 3 | Preparation for Premie admission by NICU admitting RN and RCP (In the NICU) | **NICU admission RN will:**  
- Prepare the admission bed:  
  - Turn on radiant warmer.  
  - Prepare supplies at the bedside: electrodes, pulse oximeter probe, temperature probe, BP cuff, NGT, Neobar/ tape/ measuring tape, swab for MRSA, UA and UV trays, IV pump, Admission cart  
**RCP will:**  
- Set up O2 (ventilator, C-Pap, or Hi-flow)  
|  |  | All supplies and equipment are available and ready for use when admission arrives. |
| 4 | NICU notified that patient is ready to deliver | **L&D RN will:**  
- Call NICU RN that patient is ready to deliver.  
- Page neonatologist on-call that patient is ready to deliver.  
**NICU Admission RN:**  
- Bring blue neonatal resuscitation bag with her to L&D. |
| 5 | Arrival of neonatologist and NICU RN in L&D | **NICU RN and neonatologist will:**  
- Introduce themselves to the mother and/or significant other.  
- Perform a pre-brief:  
  - Review risk factors and management plan  
  - Check supplies/equipment that they are available and ready  
  - Team composition: Neo as team leader, NICU RN, L&D RN  
  - Assign roles: who will do what during the resuscitation  
- Initiate the Golden Hour Checklist(See attachment)  
**Neonatologist will:**  
- Advise the OB to delay cord clamping for at least 30-60 seconds.  
- Conduct a post-debriefing with NICU RN and L&D RN will after resuscitation.  
  Post-briefing will answer the following questions:  
  - What did we do well?  
|  |  | A pre-briefing with team members before resuscitation ensures that all the required equipment is available and working, that the roles of individual team members are clear and planned sequence of activities is understood by everyone on the team.  
The Golden Hour checklist ensures that interventions during the first hour of the newborns life are carried out.  
Delayed cord clamping is
- What did we do poorly?
- What can we do better?

Associated with less IVH of any grade, higher BP and blood volume, and less need for transfusion after birth, and less NEC. Post-briefing gives the team to reflect on their performance, identify errors, conditions for correction, and improvement of future performance.

### Baby is delivered. Newborn resuscitation initiated.

**Resuscitation team (NICU RN, L&D RN, and Neonatologist) will:**
- Place the newborn under the heated radiant warmer. Make sure there is a thermal mattress in the warmer covered by a blanket.
- Perform newborn resuscitation following NRP Flow Diagram.
- Apply temperature probe over newborn’s abdomen and set the radiant warmer at 36.5°C under Servo-control mode.
  - Wrap the newborn (if <32 weeks gestation) in plastic wrap from neck down. Use a hat to cover the head.
   - Maintain newborn’s temperature at 36.5°C to 37.5°C.
- Apply pulse oximeter probe to right hand or wrist (pre-ductal) to monitor SaPO2 and heart rate.
- Provide supplemental oxygen. Start oxygen concentration at 21-30% and adjust oxygen concentration to achieve SaPO2 target values for the first 10 minutes after birth.

<table>
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<tr>
<th>Target SaPO2 Values after Birth</th>
<th>1 min</th>
<th>60%-65%</th>
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<tbody>
<tr>
<td>2 min</td>
<td>65%-70%</td>
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<tr>
<td>3 min</td>
<td>70%-75%</td>
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<tr>
<td>4 min</td>
<td>75%-80%</td>
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<tr>
<td>5 min</td>
<td>80%-85%</td>
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<tr>
<td>10 min</td>
<td>85%-95%</td>
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- Initiate CPAP if the newborn is breathing spontaneously but has labored breathing or persistently low oxygen saturations. Several randomized controlled studies suggest that preterm infants treated with early CPAP reduce the need for...
breathing or oxygen saturation cannot be maintained within the target range despite 100% oxygen.
- Provide PPV if required and use the lowest inflation pressure necessary to achieve and maintain a heart rate greater than 100/min. (20-25 cm H2O for most newborns.
- Consider to administer prophylactic Surfactant after intubation if newborn is extremely premature (<26 weeks gestation) – Optional in L&D

| 7 | Preparing for transport to NICU | **NICU RN and neonatologist will:**
|   |   | • Transport the premature newborn to the NICU using a pre-warmed transport incubator.
|   |   |   - Maintain the newborn’s temperature at 36.5°C to 37.5°C during transport.
|   |   |   - Use thermal blanket inside transport incubator.
|   |   |   - Keep the newborn wrapped in plastic bag with hat during transport.
|   |   | • If newborn requires oxygen support, page RCP to assist during transport.
|   |   | • Neonatologist, NICU RN and RCP will accompany newborn during transport;
|   |   | • RCP will provide oxygenation and ventilation.
|   |   | • Encourage significant other to accompany team during transport.
|   |   | • Move the transport incubator slowly to the NICU.

| 8 | Newborn arrives in the NICU | **NICU Admission RN will:**
|   |   | • Transfer newborn from transport incubator to pre-warmed radiant warmer.
|   |   | • Remove plastic wrap.
|   |   | • Place thermal mattress (from transport incubator) to underneath the newborn (place a blanket over it).
|   |   | • Place temperature probe to abdomen. Ensure incubator on ISC mode. Set desired skin temperature at 36.5°C.
|   |   | • Place oximeter probe. Place ECG electrodes. Turn monitor on.
|   |   | • Obtain weight, length, and head circumference. Check vital sighs including BP on all 4 limbs. Perform essential assessment only.
|   |   | • Secure newborn for umbilical line placement.
|   |   | • Assist neonatologist during umbilical line placement.
|   |   | • Hang D10 W to UVL if newborn needs fluids right away.
• Send blood works to lab as ordered.
• Prepare Starter fluids and UAC fluids (if with UAC line).
• Order CXR for ET and line placement.
• Hang starter fluids and UAL fluids when correct central line placement confirmed.
• Administer antibiotics.
• Complete admission assessment.
• Lower top of incubator and start humidity per protocol.
• Update family at bedside.

**Neonatologist will:**
• Consider Surfactant if intubated.
• Update family at bedside.

**RCP will:**
• Prepare all oxygen and ventilation interventions including:
  o Initiate low flow and high flow oxygen setups
  o Assess pulse oximetry ready
  o Apply patient interface
  o Titrate liter flow and FIO2 per physician recommendation
• Initiate mechanical ventilation
  o Gather suctioning supplies
  o Assess securement and positioning of patient interface
  o Validate patient settings
  o Initiate ventilation

**Attachments:**
Golden Hour Checklist
Admission Supply/Equipment Checklist for Premie Delivery

**References:**
ILPQC Quality Improvement Toolkit: Golden Hour. ILPQC.