Title: Open Crib Phototherapy

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Source (e.g. document, award, or committee, etc.):
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Newborn Nursery Committee

Cross-Referenced Policy No:

I. POLICY:

Infants with hyperbilirubinemia will receive prompt treatment with biliblanket/phototherapy in a safe and effective manner.

II. PURPOSE:

To reduce serum bilirubin concentrations to prevent complications of hyperbilirubinemia while avoiding separation of the mother baby dyad

III. DEFINITION:

Intensive Phototherapy: Phototherapy delivered at >30 uw/cm2/nm

III. EQUIPMENT:

The following equipment is acceptable to be used for phototherapy:

<table>
<thead>
<tr>
<th>Phototherapy Equipment</th>
<th>Irradiance Level</th>
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<tbody>
<tr>
<td>1. GE - Bili Soft (bili blanket)</td>
<td>&gt;35 uw/cm2/nm</td>
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<tr>
<td>2. Neobluue Overhead phototherapy</td>
<td>30-35 uw/cm2/nm (high intensity)</td>
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<td></td>
<td>12-15 (low intensity)</td>
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<tr>
<td>3. Drager overhead phototherapy unit</td>
<td>&gt;12 uw/cm2/nm</td>
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<tr>
<td>4. Medela BiliBed</td>
<td>40-60 uw/cm2/nm</td>
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<td>5. Infant eye shields</td>
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<td>6. Spectrophotometer</td>
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III. PROCEDURE:

1. The initiation and discontinuance of phototherapy requires a physician’s order.
2. Phototherapy must be initiated by a registered nurse (RN).
3. Phototherapy is to be implemented at the bedside in an open crib, unless declined by mother.
4. Irradiance level for all phototherapy devices will be measured at the start of all therapy.
5. If using more than one device for phototherapy, total irradiance is measured by adding the average readings from each device.
6. Equipment selected for phototherapy will be ordered based on physicians desired irradiance level.
7. Infant will wear only a diaper folded down below umbilicus for maximal skin exposure for all phototherapy regardless of equipment.
8. Time outside of phototherapy lights will be limited to 30-45 minutes unless fiberoptic blanket remains in constant contact with newborn during feeding/procedure.
9. Serum values will be the only method to measure bilirubin levels once phototherapy has been initiated.
10. If used, infant eye covers will be removed every 3 hours and/or during feedings, assessments, and procedures.
11. Maintain strict input and output.
12. Infant will be fed by mothers preferred method at least every 3 hours or more frequently if feeding on demand. Frequency of feeding may need to be adjusted by physician.
13. Equipment will be evaluated by Biomed yearly to determine if they meet specific irradiance guidelines.
14. Use of protective skin ointment will be implemented with every diaper change.
15. Medela Bili bed will not be used for infants over 10kg.

How to Measure Irradiance in Overhead Lamp:

The RN will:
1. Measure irradiance at the level of the newborn. Measurement consists of measuring irradiance levels at all 4 corners and the center of the phototherapy unit. The average of the 5 readings is the units’ irradiance level.

How to Measure Irradiance with BiliSoft:

The RN will:
1. Measure irradiance level on the fiberoptic pad with the cover off following the guide in the center of the light pad. Measure the irradiance at each of the 3 points in the center of the pad and take the average of those 3 readings.

To Initiate Phototherapy:

The RN will:
1. Verify patient and order using 2 unique patient identifiers
2. Bring required equipment to the patient’s bedside.

The Tech/RN will:
1. Assess temperature every 2-3 hours
2. Reposition infant every 2-3 hours
3. Maintain strict I&O’s
4. Ensure infant is fed every 3 hours or more frequently with mothers preferred feeding method.
5. Assist breastfeeding patients with hand expression and/or use of breast pump to increase milk production.
Bili Soft:

The RN/Tech will:
1. Turn on device and allow to run for approximately 5 minutes.
2. Verify that side air vents are clear
3. Apply appropriate protective eye shields to newborn

The RN will:
1. Measure irradiance
2. Place pad in disposable cover with illuminated side facing up.
3. Place on their back onto the padded side of the fiberoptic pad.
4. When used with overhead phototherapy: Place infant on their back into the open crib, uncovered, with overhead phototherapy equipment as ordered. Infant and pad can be swaddled together for feedings.
5. When used alone: Place infant on fiberoptic pad and swaddle in a blanket together assuring maximal skin coverage.

The RN/NA will:
1. Disinfect fiberoptic pad and cable as per hospital policy.

Overhead Phototherapy Unit

The RN will:
1. Measure irradiance level.
2. Apply appropriate protective eye shields to newborn.
3. Place infant in open crib on back.
4. Place phototherapy unit above bassinet at a distance of approximately 12 inches from the newborn.
5. Initiate phototherapy.

If Using NeoBlu:
1. Press target illumination switch to center the light over for the newborn. The target light is red and should be centered over the baby’s torso.
2. Select and administer light intensity as per physician order.

Medela- Bilibed

The RN will:
1. Attach infant support to the top of bilibed using the Velcro straps. Do not initiate phototherapy without infant support.
2. Obtain new bilicombi blanket and fasten to the infant support using included Velcro straps. Ensure that bilicombi blanket has full coverage over the bilibed.
3. Place unit into bassinet ensuring space for ventilation around the sides of the bassinet. Ventilation space should measure about the width of a pen or pencil.
4. Measure irradiance in the 5th square located on the infant support attached to the bilibed. Depress the irradiance measurement device down into the infant support to simulate weight of baby and obtain reading.
5. Remove all infant clothing and roll diaper down below umbilicus to insure maximal skin exposure.
6. Eye patches are not required for this device.
7. Lay infant on back into billicombi blanket and secure infant with Velcro straps up to the neck. Assure infant is lined up over the lights using guide drawing on unit.
8. Blanket may be place on top of newborn if additional warmth is necessary
9. Initiate phototherapy by turning the device on using the Start/Stop feature or plugging the unit in.

The RN/Tech will:
1. Verify correct positioning and ventilation space every 2-3 hours. Clean device with disinfectant wipes.

III. DOCUMENTATION:

The following items are required to be documented in the electronic medical record (EMR) on infants receiving phototherapy.
1. Temperature every 2-3 hours
2. Start and end time of phototherapy
3. Physicians desired irradiance level
4. Equipment used
5. Presence of eye equipment (if required)
6. Intake and output
7. Phototherapy light status upon receiving infant
8. Reason for discontinuing light
9. Skin integrity

IV. REFERENCES:


**Approved by:**

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<tr>
<th>Signature</th>
<th>CNO/Vice President – Patient Care Services</th>
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<tbody>
<tr>
<td>Title</td>
<td>Director – Women &amp; Children’s Division</td>
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Revised Date: