**PROCEDURE FOR ADMINISTRATION OF SURFACTANT**

**Purpose of Procedure/Guideline/Protocol:** To provide guidance on administration of surfactant to the neonate

**Replaces:** New

**Applicable to which staff:** Neonatal and SCBU Nursing staff

**Name & title of author:** Una Toland Lead Nurse Neonatal Services and ANNP team SH&SCT

**Equality Screened by:** N/A

**Proposals for dissemination:** Una Toland via team managers to nursing staff

**Proposals for implementation:** With immediate effect

**Training Implications:** To be included in induction training of all new nursing staff

**Date Procedure/Guideline/Protocol submitted to Procedures Committee:** 31-03-13

**Outcome:** Approved

**Comment:**

- Approved/Minor amendments
- Not approved
- Deferred

**Date of CYP SMT approval Comments:**

**Date of approval by Trust SMT (if required):**

**Date approved by HSCB (Social Work only):**

**Date for further review (3 year default):**

**Date added to repository:**

**Date added to Intranet:**

**State where to be placed on Intranet:**
PROCEDURE FOR ADMINISTRATION OF SURFACTANT

Statement:
Surfactant is indicated for both the prevention and treatment of Respiratory Distress Syndrome (RDS). Prophylactic therapy is more effective the earlier it is administered. Surfactant can be administered using the surfactant administration kit or alternatively via a gastric feeding tube.

Curosurf is a natural surfactant, prepared from porcine lungs. It should be stored in a refrigerator (2 degrees Celsius - 8 degrees Celsius).

Unopened, unused vials of Curosurf that have warmed to room temperature can be returned to refrigerated storage within 24 hours for future use. Do not warm to room temperature and return to refrigerated storage more than once.

Associated Procedures
Procedure for neonatal Intubation
Procedure for Neonatal Extubation

Equipment:
Clean stainless steel trolley
Surfactant vial from fridge
Surfactant Administration kit or Sterile scissors and appropriate sized feeding tube if using a feeding tube to administer surfactant.
Non-sterile gloves
Disposable gown
Suction and appropriate size suction catheters
Sterile drape
Clinell wipe
Disposable tape measure
Functioning neopuff
<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure neonate is attached to full vital signs monitoring.</td>
<td>To safely monitor infant throughout procedure</td>
</tr>
<tr>
<td>Ensure Surfactant is prescribed on infant's drug chart.</td>
<td>Ensures adherence to safe administration of medicines.</td>
</tr>
<tr>
<td>Ensure neopuff and suction are set up and working.</td>
<td>To ensure access to resuscitation equipment throughout the procedure.</td>
</tr>
<tr>
<td>Ensure trolley is cleaned with a detergent wipe followed by Alcohol wipe. Allow to dry. Cover clean trolley with drape and open out surfactant administration kit and gloves.</td>
<td>To reduce risk of contamination of equipment</td>
</tr>
<tr>
<td>Remove vial of Surfactant from fridge and warm to room temperature for 20 minutes or in the hand for approximately 8 minutes. Do not artificially warm. The vial should not be shaken but slowly turned upside down in order to obtain a uniform suspension.</td>
<td>To ensure drug is not cold and solution in vial has a uniform suspension</td>
</tr>
<tr>
<td>Dr /ANPN to wash hands as per local policy adhering to 7 step technique and 5 moments of hand hygiene. Don non-sterile gloves.</td>
<td>To reduce risk of contamination and transmission of micro organisms</td>
</tr>
</tbody>
</table>

**Administration of Surfactant using the Surfactant administration kit**

Remove outer cap from vial and clean top with a Clinell wipe before drawing up Surfactant using the syringe and drawing up needle in the Surfactant administration kit.

The distance for the insertion of the Surfactant administration device is determined by the length of the endotracheal tube to the cut-off point and adds on 3 centimetres for blue connector on end of ETT.

To ensure the correct depth for administration and avoid uneven distribution of surfactant. Surfactant should not be instilled into a main stem bronchus.

Place the infant in the supine position. The base of the incubator should remain flat throughout the procedure. Remove the infant from the ventilator by disconnecting the blue end of the endotracheal tube. Attach the ETT to the Neopuff circuit which has been pre-set at the correct pressures according to the

To maximise oxygenation of infant prior to administration of Surfactant.
Dr/ANNP to ventilate infant via the neopuff in order to obtain saturations 95 upwards prior to administration of Surfactant. Suction should be given if required prior to administration of surfactant.

Dr /ANNP to insert the primed Surfactant administration device into the ETT to the pre-determined length and instil the dose of surfactant at a steady pace directly into the lower trachea via the endotracheal tube. Remove the Surfactant administration device catheter from the ETT. Doctor/ANNP to perform 1 minute of ventilation breaths via the neopuff circuit prior to connecting the neonate to the ventilator at the original settings.

**Administration of Surfactant using a Gastric feeding tube.**
Measure the length at which the ETT is cut and add 3cms which allows for the blue connector end of the ETT. Cut the feeding tube to the pre-determined length. Draw up the prescribed volume of Surfactant and prime the feeding tube with the Surfactant.

Dr /ANNP to ventilate infant via the neopuff in order to obtain saturations 95 upwards prior to administration of Surfactant. Suction should be given if required prior to administration of surfactant.

To ensure the surfactant is distributed evenly into both lungs.

To ensure the correct depth for administration and avoid uneven distribution of surfactant. Surfactant should not be instilled into a main stem bronchus.

To maximise oxygenation of infant prior to administration of Surfactant.

To ensure the surfactant is distributed evenly into both lungs.
### via the neopuff circuit prior to connecting the neonate to the ventilator at the original settings.

Suction should then be avoided for at least 4 hours post administration of surfactant unless absolutely necessary.

**Following surfactant administration**
The Dr/ANNP must observe the neonate for at least half an hour as pulmonary compliance can improve rapidly requiring prompt adjustment of the ventilator settings. Dr/ANNP will advise accordingly.

Record oxygen saturations and ventilator settings changes post administration of surfactant.

Blood gas should be taken 30 minutes post administration of surfactant.

Safely dispose of all equipment post procedure and decontaminate trolley and decontaminate hands.

Document procedure in neonates notes. Place the sticker from the surfactant vial into infants chart as this contains details of the batch number.

Allow parents to visit infant as soon as possible and provide update on infants’ condition.

**To ensure drug has a chance to act within the lower airway and alveoli.**

**To avoid pulmonary over distension and hyperoxia and to avoid pneumothorax due to sudden changes in pulmonary compliance.**

**To monitor response to surfactant and detect indication of clinical improvement.**

**To comply with health and safety and infection control guidelines.**

**To comply with the NMC guidelines for safe administration of medicines and record keeping.**

**To keep parents informed of infants progress.**

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**March 2013**

**References**

- Neonatal Clinical Guidelines King Edward Memorial /Princess Margaret Hospitals Perth Western Australia
- Chiesi pharmaceuticals, 2006