

	Department: Respiratory Services	Date Originated: June 2010 Date Reviewed/Revised:
POLICY & PROCEDURE	Topic: <u>Neonatal</u> – Surfactant Administration Neonates (Respiratory Therapy) Number: B-00-12-12098	Related Links:

APPLICABLE SITES:
St. Paul's Hospital

POLICY STATEMENT:

The administration of surfactant to a neonate in the NICU at SPH will be the sole responsibility of the pediatrician.

The Respiratory Therapist will be available to assist with maintaining and monitoring the airway, oxygenation, and ventilation during the procedure. The therapist should also remain with the infant for a minimum of 1 hour following surfactant administration.

GENERAL INFORMATION:

Newborn infants 26 weeks or less should be treated with surfactant administration within 30 minutes of age. Infants 27 weeks or more may be given surfactant based upon the pediatrician's assessment of the patient's condition.

Due to the viscosity and stickiness of the surfactant, whenever possible a size 3.0 endotracheal tube should be used to help minimize the risk of the surfactant occluding the endotracheal tube. A size 3.0 endotracheal tube is indicated for infants 28 – 34 week's gestation, and/or a weight of 1000 – 2000 grams.

NOTE: It will be the responsibility of the pediatrician to determine if the endotracheal tube is in good position via chest x-ray prior to the administration of surfactant.

EQUIPMENT:

- Surfactant (kept frozen – located in NICU fridge/freezer)
- White side-port adaptor (located in red NICU Transport Intubation Box)
 - Size 2.5
 - Size 3.0 – ***Preferred size***
- 10 mL Syringe
- Flow-inflating manual resuscitator
- Suction set-up

PROCEDURE:

1. Obtain the appropriately sized white side-port adaptor from the red NICU Transport Intubation Box.
2. Replace the endotracheal tube adaptor with the white side-port adaptor.
3. The pediatrician will calculate the dosage required according to the infant weight (5 mL/Kg).
4. The RN will obtain the surfactant from the NICU freezer and defrost prior to use. The RN or pediatrician will draw up the surfactant into the 10 mL syringe.
5. Suction the neonate prior to surfactant administration as per [B-00-12-12089](#).

NOTE: The neonate should not be suctioned for the next 2 hours post surfactant administration.

6. Ensure the oximeter is in place and functioning. Document the following pre-procedure parameters onto the Respiratory Critical Care Flowsheet:
 - a. FiO_2
 - b. RR
 - c. PIP
 - d. T_i
 - e. Tidal Volume
 - f. SpO_2
 - g. HR
 - h. BP
7. The above parameters should also be monitored during administration, and documented again post administration.
8. Ensure the bed is flat and the infant is supine with the head midline.
9. Disconnect the infant from the ventilator and attach the flow-inflating resuscitator to the endotracheal tube.

NOTE: The **pedsiatrician** will provide manual ventilation via the flow-inflating resuscitator during the administration of surfactant.

10. The **pedsiatrician** will attach the syringe to the side-port adaptor, and will slowly inject the surfactant into the endotracheal tube simultaneously with inspiration.

NOTE: Administration should be slowed or halted if desaturation or bradycardia occurs.

11. Disconnect the flow-inflating resuscitator and re-connect the infant to the ventilator.
12. Document on the Respiratory Critical Care Flowsheet details of the procedure and how well the procedure was tolerated, which should include:

- a. Method of administration
- b. Duration of administration
- c. Patient tolerance
- d. Amount of surfactant administered
- e. Volume administered

13. The patient should have their ventilator parameters and oxygen saturation monitored Q15 minutes for 1 hour, and then Q1 hour after that. Ventilator parameters may need to be adjusted due to changing respiratory mechanics post-administration. Parameter changes should be made in consultation with the pediatrician.

PHYSICIAN RESPONSIBILITY:

- Determining the need for surfactant
- Determining the dosage required
- Drawing up the surfactant
- Assessing and confirming endotracheal tube placement
- Attaching syringe to the side-port adaptor
- Administration of the surfactant
- Manual ventilation **during** surfactant administration

REGISTERED NURSE RESPONSIBILITY:

- Obtain surfactant from freezer
- Assist pediatrician with drawing up surfactant
- Monitoring the patient
- Documentation of the procedure and response

RESPIRATORY THERAPIST RESPONSIBILITY:

- Maintaining the airway
- Manual ventilation if required
- Maintaining ventilation and oxygenation
- Replacing ETT adaptor with side-port adaptor
- Suctioning the infant pre-administration
- Monitoring the patient
- Documentation of the procedure and response

REVIEWED BY/PERSONS CONSULTED:

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