Infant Nasal SiPAP System

Purpose

To standardize the bedside procedure for the application of the Infant Flow SiPAP system in the Infant Special Care Unit.

Audience

Licensed Respiratory Care Practitioners with the understanding of age specific requirements of this patient population.

Scope

Outlines the accepted clinical techniques for the use of nasal SiPAP in the neonatal population in the treatment of infants with respiratory distress by increasing the functional residual capacity (FRC), increasing pulmonary compliance, decreasing total airway resistance and decreasing respiratory rate.

Indications

- Respiratory Distress Syndrome (RDS)
- Apnea of Prematurity (AOP)
- Hypoxemia
- CO_2 retention
- Airway Collapse
- Increased work of breathing
- Weaning from mechanical ventilation

Contra-indications

Contraindications to the use of Infant Flow SiPAP are: upper airway abnormalities, untreated air leaks, cardiovascular instabilities, and untreated diaphragmatic hernias.

Physician's Order

- Order for Infant Flow SiPAP
- CPAP level
- Bihasic pressure high, pressure low, and rate
- FiO_2

Equipment

- Infant Flow SiPAP unit
- Appropriate size nasal mask or prongs with straps, flow generator, and appropriate hat size
- SiPAP circuit
- Fischer Paykel heater
- Humidifier chamber with auto feed set.

Procedure

Equipment Assembly:

Step	Action
1	Connect air and oxygen lines to 50 psi wall source.
2	Place humidifier chamber with in the Fischer Paykel heater.

Step	Action
3	Connect Infant Flow circuit to the humidifier chamber.
4	Place the prepackaged flow generator in line with the patient circuit.

Patient Set-up Procedure:

Step	Action
1	Verify physician order, patient identification and check chart for contraindications.
2	Explain set-up to family members present. Stress the importance of patient compliance for successful treatment and the reasons for utilizing this modality.
3	Observe and record the following parameters prior to placing nasal mask or prongs on patient: Heart rate, Respiratory rate, Breath sounds, Oximeter saturations, and breathing pattern.
4	Place the appropriate sized hat on patient's head with tie straps located in the center of the forehead. Position the hat so that it is placed below the ears and at the level of the patient's eyebrows. Ensure that the patient's ears are not folded over.
5	Place the mask or prongs on the baby and secure the generator ties. Secure the generator lines to the top of the hat. Ensure that there are no air leaks at any point around the mask seal, especially the bridge of the nose. **Note: an air leak at the bridge of the nose will allow a high flow of gas to be directed towards the eyes with the potential of abrasive conjunctivitis.**
6	Make sure that the mask or prongs are not excessively tight. A seal can be created without undue pressure on the babies face.
7	Increase the flow to achieve the level of care ordered by the physician and set the FiO_2 as ordered by the physician.
8	Monitor heart rate, respiratory rate, breathing pattern, ABGs, pulse oximetry, saturations, level of consciousness and patient compliance.
9	Document clinical effects and record final settings in Epic, per RCS Policy # 7.1.1.

Adverse Reactions

If any of the following conditions are observed reevaluation of the treatment, modality must be performed.

- Increase in heart rate >20 beats per minute above baseline
- Increase in respiratory rate >20 breaths per minute above baseline
- Marked increase in agitation of patient
- Marked decrease in level of consciousness
- Increase in $PaCO_2$ >15mmHg above baseline

Infection Control

Follow procedures as outlined Healthcare Epidemiology Policies and Procedures: #2.24 Respiratory Care Services.
http://www.utmb.edu/policy/hcepidem/search/02-24.pdf

References

Sensormedics Infant Flow System Operator's Manual

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