HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER MATERNITY AND CHILDREN HOSPITAL

Department:	Pediatrics		
Document:	Multidisciplinary Policy and Procedure		
Title:	Administering Oxygen via Non – Rebreathing or Partial Rebreathing Mask in Pediatrics		
Applies To:	All Pediatric Staffs and Respiratory Therapists		
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1. PURPOSE:

1.1 To improve tissue oxygenation.
1.2 To treat or prevent symptoms and manifestations of hypoxia.
1.3 To reduce myocardial oxygen demand.
1.4 To provide short term therapy in case such post anesthetic or surgical procedure.
1.5 To deliver moderate to high concentration of oxygen by mask with reservoir.

2. DEFINITIONS:

2.1 **Partial Rebreathing Mask** – consists of a simple mask with an attached reservoir. Oxygen concentrations from 50 to 60 percent can be achieved with oxygen flow rates between 10 and 12 L/min. gas in the reservoir is oxygen rich, despite the fact that it contains some exhaled gas. This is because the early exhaled air that flows into the reservoir (from respiratory dead space in the mouth and upper airways) is oxygen rich and contains little carbon dioxide. In order to maintain a high percentage of oxygen in the reservoir and minimize CO: rebreathing, the oxygen flow rate must be adjusted to keep the reservoir from collapsing.

2.2 **Non-Rebreathing Face Mask** – is a mask with an oxygen reservoir bag that has a one-way valve system which prevents exhaled gases mixing with fresh gas flow. The non- rebreathing mask system may also have a valve on the side ports of the mask which prevents entrainment of room air into the mask. These masks are not commonly used but a non- rebreathing mask can provide higher concentration of FiO_2 (>60%).

3. POLICY:

3.1 Oxygen administration via Non – Rebreathing or Partial Rebreather mask are used for the delivery of oxygen from 10 to 15 L/min.
3.2 Humidification system may be not used in this oxygen therapy delivery as this can cause excessive 'rain out' in the reservoir bag.
3.3 A Physician written order must specify the prescribed oxygen dosage and method of delivery.
3.4 Oxygen therapy should be administered by qualified staff nurse, physician and respiratory therapist.
3.5 Patient on oxygen therapy must be connected to cardio – respiratory monitor.
3.6 Blood gas analysis should be monitored as ordered.
3.7 Safety precautions must be observed during oxygen therapy due to combustibility property that potentiates burn.

4. PROCEDURE:

4.1 Check Physician's order for oxygen administration and ensure that it include oxygen flow rate and method of delivery.
4.2 Identify the patient correctly by using two identifiers (4 names for Saudi/ complete name for Non – Saudi and Medical Record Number).

4.3 Assess the patient for signs of respiratory distress and hypoxia and decreased level of consciousness.
4.4 Monitor blood gas results.
4.5 Explain to the patient/ parent why oxygen is being administered and how it will help the condition.
4.6 Connect to cardio – respiratory monitor.
4.7 Perform hand hygiene.
4.8 Assemble equipment.
4.9 Connect the flow meter to the wall or tank.
4.10 Fill the reservoir bag with oxygen to inflate the bag and adjust flow meter to 10 to 15 L/min. bags serves as a reservoir, holding oxygen for patient inspiration to ensure the highest concentration of oxygen is delivered to the patient.
4.11 Ensure the flow rate from the wall to the mask is adequate to maintain a fully inflated reservoir bag during the whole respiratory cycle. The reservoir bag does not completely empty when child inspires if flow rate is set properly.
4.12 Place the mask on the patient's face. Make sure the mask fits snugly. Adjust the metal rim over the nose and contour the mask to the face. There must be an air tight seal between the mask and the patient's face.
4.13 Adjust oxygen flow, fill the bag on expiration.
4.14 Adjust flow to higher rate, if necessary; ensure proper inflation of bag and that it does not collapse on inspiration.
4.15 Assist patient to a semi or high fowler's position if tolerated to facilitate optimal expansion.
4.16 Assure patient comfort and tolerance. Infants and children may not tolerate the masks. Modify the fit as necessary to ensure compliance and adequate oxygenation.
4.17 Adjust the flow rate appropriately as ordered.
4.18 Check if the patient is receiving the appropriate concentration of oxygen. Make sure that oxygen end adaptor is connected to oxygen at all times and no kinks in the tubing as these may cause hypoxia.
4.19 Monitor the effectiveness of oxygen therapy by assessing the child's color, oxygen saturation and PaO_2 in blood gas results.
4.20 Adhere to safety precautions in providing oxygen therapy due to its combustible property.
4.21 Document in the nurses note the date and time of oxygen therapy was initiated or discontinued, type of oxygen device and flow rate, all nursing care, all treatment given, patient's condition and tolerance to therapy.

5. MATERIAL AND EQUIPMENT:

5.1 Partial Rebreathing/ Non – Rebreathing Mask
5.2 Oxygen Source
5.3 Flow Meter
5.4 Cardio – Respiratory Monitor

6. RESPONSIBILITIES:

6.1 Physician
6.2 Nurses
6.3 Respiratory Therapist

7. APPENDICES:

N/A

8. REFERENCES:

8.1 Ministry of Health, General Directorate of Nursing, Manual of Nursing Policy and Procedure, 2013.
8.2 Janice L Hinkle, Kerry Cheever, Brunner and Siddhartha's Textbook of Medical Surgical Nursing, Lippincott Williams and Wilkins, Philadelphia, 13th edition, 2014.

8.3 Audrey Berman, Shirlee Snyder, Kozier and Erb's Fundamentals of Nursing Concept, Process and Practice, Pearson Education, 10th edition, 2015.

9. APPROVALS:

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