HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Pediatrics		
Document:	Multidisciplinary Policy and Procedure		
Title:	Oxygen Therapy in Pediatric Patient		
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 achieve and maintain airway patency.

2. DEFINITIONS:

2.1 **Oxygen** – is administered to patients with impaired respiratory function to improve arterial saturation, to vasodilate the pulmonary capillary bed and to enhance systemic oxygen delivery. Oxygen therapy is the administration of oxygen at concentrations greater than that in ambient air, with the intent of treating or preventing the symptoms and manifestations of hypoxia.

3. POLICY:

3.1 A written physician order must specify the prescribed oxygen dosage and method of delivery.
3.2 Oxygen therapy must be administered for those who have an oxygen saturation of less than 94% on room air on pulse oximeter.
3.3 Qualified staff nurse, physician or respiratory therapist should administer oxygen therapy.
3.4 Humidifying devices are essential adjunct to oxygen therapy before administering it to patient.
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 Verify physician order for oxygenation. Identify delivery method, flow rate and duration of oxygen therapy.
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.
- 4.3.1 Laboured Respirations
- 4.3.2 Cyanosis
- 4.3.3 Increased Heart Rate
- 4.3.4 Dilated Pupils
- 4.3.5 Use of Accessory Muscles
- 4.3.6 Changes In Level of Consciousness
- 4.3.7 Oxygen Concentration Less Than 94% on Room Air

4.4 Assess for symptoms of decreased cerebral oxygenation.
- 4.4.1 Irritability
- 4.4.2 Confusion

4.4.3 Lethargy
4.4.4 Coma, if untreated

4.5 Connect to cardio – respiratory monitor.

4.6 Observe for patent airway, remove airway secretions by instructing patient to cough and do suctioning if necessary.

4.7 Obtain blood gas sample as ordered to assess the patient's oxygenation, ventilation and acid base status.

4.8 Perform hand hygiene.

4.9 Assemble equipment.

4.9.1 Secure a functional oxygen regulator.

4.9.1.1 Remove any dust particles, to prevent them from being forced into the regulator.

4.9.1.2 Attach the flow meter to the wall outlet, exerting firm pressure. The flow meter should be an off position.

4.9.2 Fills the humidification reservoir with sterile water.

4.9.2.1 Make sure humidifier is clean before use.

4.9.2.2 When refilling humidifier bottles, discard any remaining water then fill with distilled water (do not 'top up').

4.9.2.3 Ensure all connections are tight and not cross threaded. A leak will result in less O_2 being delivered to the patient.

4.9.2.3 Place humidifier at a level below the patient's head.

4.9.3 Test the equipment for proper functioning.

4.10 Explain to the patient/ parents why oxygen is being administered and how it will help the condition.

4.11 Position patient accordingly.

4.12 Connect the oxygen tubing to flow meter outlet. Set the flow rate at the prescribed dosage (L/min).

4.13 Assure patient comfort and tolerance. Infants and children may not tolerate the masks. Modify the fit as necessary to ensure compliance and adequate oxygenation. Young children in respiratory distress may become frightened or agitated when oxygen is administered, causing their clinical condition to deteriorate.

4.14 Check for proper function of oxygen delivery device:

4.14.1 Nasal cannula- cannula is positioned properly in nares

4.14.2 Simple and nebulizer face mask – patient's nose and mouth

4.14.3 Continuous positive airway pressure (CPAP).

4.14.4 Venturi mask – percentage of FiO_2 should correlate with flow rate.

4.14.5 Non-rebreathing mask (with one way valve) – reservoir bag should fill on exhalation and will not collapse on inhalation.

4.14.6 Manual resuscitation bag with face mask.

4.14.7 Endotracheal and tracheostomy tube with a T – piece connector/ adapter by way of mechanical ventilator.

4.14.8 Tracheostomy tube in a tracheal mask.

4.15 Monitor patient's response. Monitor the effectiveness of oxygen therapy by assessing the child's color, oxygen saturation and blood gas results.

4.16 Check frequently for the following:

4.16.1 Oxygen flow rate.

4.16.2 Patency of tubing.

4.16.3 Humidifier settings, temperature and water level.

4.16.4 Check frequently and record vital signs on the patient observation chart.

4.17 Adjust the flow rate appropriately as ordered according to patient's condition and oxygen saturation and inform the physician with the changes made.

4.18 Provide adequate oral and nasal care to patients on oxygen therapy. Normal Saline Nasal Drops are necessary with physician's order.

4.19 Report unexpected outcome to physician.

4.20 Evaluation:

4.20.1 Observe for decreased anxiety, improve level of consciousness, absence of dizziness, decreased pulse with regular rhythm, decreased respiratory rate, return to normal blood pressure, improve color and return to patient's baseline vital signs.

4.20.2 Assess adequacy of oxygen flow by monitoring SPO_2 and ease of breathing.

4.20.3 Observe patient's external ears, nares and nasal mucous membranes for evidence of skin breakdown.

4.20.4 Notify the physician for any abnormalities.

4.21 Observe oxygen therapy precautions at all times:

4.21.1 Instruct the visitor that smoking is not allowed at any time during the administration of oxygen.

4.21.2 Make sure that electrical equipment such as razors, hearing aids, radios, televisions, heating pads is in good working condition to prevent occurrence of short circuit sparks.

4.21.3 Avoid materials that generate static electricity such as woollen blankets and synthetic fabrics.

4.21.4 Avoid the use of volatile, flammable materials such as oils, gases, alcohol near clients receiving oxygen.

4.21.5 Turn off oxygen immediately when not in use. Oxygen is heavier than air and will pool in fabric making the material more flammable. Therefore never leave the nasal prongs or mask under or on bed coverings or cushions whilst the oxygen is being supplied.

4.22 Document in the nurses note the date and time the oxygen therapy was initiated or discontinued, type of oxygen device and flow rate, all nursing care rendered, all treatment given, patient's condition and tolerance to therapy.

5. MATERIAL AND EQUIPMENT:

5.1 Oxygen Administration Set
5.2 Oxygen Source
5.3 Flow Meter
5.4 Humidifier and Sterile Water
5.5 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.

8.4 Oxygen therapy administration in a non-emergency situation (2015). Great Ormund Street Hospital for Children NHS Foundation trust. Accessed from http://www.gosh.nhs.uk/healthprofessionals/clinical-guidelines/oxygen-therapy -administration-non-emergency-situation.

9. APPROVALS:

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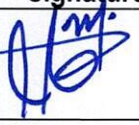
Prepared by:	Ms. May Oweid Alrawaily	Pedia Medical Ward Head Nurse		January 12, 2025
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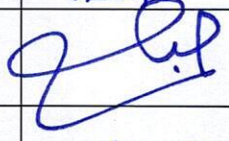
Reviewed by:	Mr. Sabah Turayhib Al Harbi	Director of Nursing		January 13, 2025
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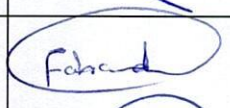
Reviewed by:	Dr. Fahad Obaid Al Shammari	Pedia.Head of the Department		January 13, 2025
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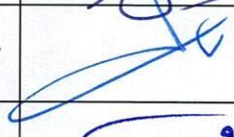
Reviewed by:	Dr. Tamer Mohamed Naguib	Medical Director		January 15, 2025
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