

UTMB RESPIRATORY CARE SERVICES <b>PROCEDURE - Continuous Aerosol Therapy:</b>	Policy 7.3.28 Page 1 of 4
<b>Continuous Aerosol Therapy</b>  Formulated: 10/78	<b>Effective:</b> 10/4/94 <b>Revised:</b> 11/03/14

## Continuous Aerosol Therapy

<b>Purpose</b>	To standardize the administration of continuous aerosol therapy.
<b>Policy</b>	Respiratory Care Services provides equipment and therapy according to physician's orders to improve airway humidification and subsequent removal of secretions. A licensed respiratory care practitioner may institute Aerosol therapy delivered by compressed air or supplemental oxygen with minimal supervision by the Supervisor with understanding of age specific requirements of population treated.
<b>Physician's Order</b>	<p>The written physician's order should include:</p> <ul style="list-style-type: none"> <li>• FIO<sub>2</sub></li> <li>• Frequency/Duration</li> <li>• Mode of Administration. (Aerosol mask/trach collar/face tent)</li> </ul> <p>In the absence of a complete order, aerosol therapy will be administered only in an emergency. The order must be secured at the earliest possible time after emergency administration has occurred, otherwise the complete order must be secured before therapy can be administered.</p> <p>In the absence of mode of administration - the following guidelines will be used:</p> <ul style="list-style-type: none"> <li>• For patients without facial injuries - Mask.</li> <li>• For patients with facial injuries - Face Tent.</li> <li>• For patient with laryngectomy or tracheotomy - Trach mask or T-tube with aerosol tubing.</li> <li>• For pediatric patients with a tracheostomy tube, it is preferable to heat and humidify inspired gas to match the normal physiologic conditions at the level of the carina (32-34° C, ~100% relative humidity, absolute humidity of 33-37 mg of H<sub>2</sub>O/L).</li> </ul>
<b>Indications</b>	<ul style="list-style-type: none"> <li>• Retained secretions.</li> <li>• Thick tenacious secretions.</li> <li>• Humidify inspired gas.</li> <li>• Adjunct to artificial airways.</li> </ul>
<b>Goals</b>	<p>Aid bronchial hygiene.</p> <ul style="list-style-type: none"> <li>• Restore and maintain the mucus blanket.</li> <li>• Hydrate dried, retained secretions.</li> <li>• Promote expectoration.</li> <li>• Improve the effectiveness of the cough.</li> </ul> <p>Humidify inspired gases to keep airways moist and free from obstructive dried secretions.</p>

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### Equipment

- Only disposable equipment will be used.
- Aerosol mask, t-tube, trach mask, or face tent.

### Equipment Continued

- Nebulizer kit.
- Aerosol tubing.
- Appropriate flow meter.
- In-line aerosol drainage bag.
- For Pediatrics:
  - RT114 circuit
  - MR290 humidifier chamber
  - 1L bag sterile water
  - F&P 850 heater
  - Blender device

### Procedure

	<b>Adult Areas</b>
<b>Step</b>	<b>Action</b>
1	Verify physicians order and patient ID, wash hands.
2	Explain safety regulations to patient, family and visitors.
3	Plug flow meter into outlet.
4	Attach nebulizer to flow meter.
5	Attach aerosol tubing to appropriate appliance and nebulizer.
6	Adjust venturi (located at the top or side of nebulizer cap) to prescribed FiO <sub>2</sub> . If room air is prescribed, attach to compressed air wall outlet.
7	Turn flow meter to recommended liter flow (sufficient to produce a good aerosol fog). Flow rates from the device should be high enough to meet patient's inspiratory needs. Settings should be set according to manufacturer's recommendations and verified by oxygen analysis.
8	Attach Trach Collar, T-tube, Aerosol Face Mask, or face tent.
9	Reinforce key points of therapy to the patient; then institute therapy.

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10	Stay with patient until he is adjusted to the therapy.
11	Record pertinent data in Epic. Record initial set-up, document rounds and change-out of equipment in Epic and Department Treatment Card per RCS Policy # 7.1.1
12	Drain out any liquid that may be in the aerosol tubing into the drainage bag. Repeat as needed. Empty reservoir when indicated.
<b>ISCU and Pediatric Areas</b>	
<b>Step</b>	<b>Action</b>
1	Verify physicians order and patient ID, wash hands.
2	Explain safety regulations to patient, family and visitors.
3	Connect oxygen/ air hoses for blender device.
4	Obtain pole mounted F&P850 heater.
5	Assemble F&P RT114 heated circuit with MR290 humidifer chamber, trach collar and 1 liter bag of sterile water.
6	Adjust flow from blender device to the circuit assembly to run at a minimum of 8L/min.
7	Adjust oxygen concentration to maintain the physician directed oxygen saturation.
8	Reinforce key points of therapy to the patient; then institute therapy.
9	Stay with patient until adjusted to the therapy.
10	Record pertinent data in Epic. Record initial set-up, document rounds and change-out of equipment in Epic and Department Treatment Card per RCS Policy # 7.1.1.

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**Undesirable Side Effects**

Contact physician if any of these result from this therapy for reassessment of therapy.

- Airway obstruction may result from the swelling of dried, retained secretions. These secretions are hydrophilic and will swell when they absorb water. This may result in acute lower airway obstruction.
- Aerosol induced bronchospasm.
- Fluid overload especially in infants receiving continuous therapy. Note: There is no documentation to demonstrate fluid overload in the adult receiving intermittent therapy.

**Assessment of Outcome**

Assessment of:

- Blood gas measurements and oximetry.
- Work of breathing.
- Assessment of the cardiopulmonary system.
- Color

**Discontinuation of Orders**

Patients will be evaluated after every treatment. A complete pulmonary assessment will be done every 72 hours as indicated. Based on the assessment, the therapist will make recommendations for changes in therapy or discontinuance as needed.

**Infection Control**

Follow procedures outlined in Healthcare Epidemiology Policies and Procedures #2.24; Respiratory Care Services.

<http://www.utmb.edu/policy/hcepidem/search/02-24.pdf>

**Patient Teaching**

Explain to the patient why he/she is receiving continuous aerosol.

- Assure proper body alignment for maximal breathing efficiency.
- Proper cough instruction or cough assistance.

As a result of the educational aspects of this therapy the patient should be able to verbalize and demonstrate his understanding of this therapy.

**References**

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