

Aerogen Solo Nebulizer for Aerosolized Bronchodilator Medication Delivery: Respiratory Therapy

Site Applicability

St. Paul's Hospital
Mount Saint Joseph Hospital

Practice Level

Respiratory Therapist

Need to Know

The Aerogen system is a vibrating mesh nebulizer and therefore does not add external flow to the circuit which in turn does not require any adjustment of ventilator parameters during use. It can also be refilled without interrupting ventilation or breaking the circuit.

The Aerogen Solo can be added to the circuit of invasive, non-invasive and high flow oxygen modalities, to deliver aerosolized medication to patients.

The Aerogen Ultra can be used as a handheld nebulizer with a mouthpiece and filter, or mask.

NOTE: For the vibrating mesh properties of the AERONEB to function properly, the nebulizer must remain upright. Do not use a filter or HME between the nebulizer and patient airway.

Nebulizer capacity on Aerogen Solo is 6 mL

The Aerogen Solo nebulizer may be used for a maximum of 28 days when used in intermittent mode, based upon a typical usage of 4 treatments per day. Single patient use.

Infection Control Precautions

Invasive and non-invasive positive pressure ventilation is considered an aerosol generating medical procedure (AGMP) and as such, all health care providers involved in the procedure should be wearing complete personal protective equipment (PPE) attire including a fit-tested N95 mask and eye protection.

Proper hand hygiene should be maintained throughout procedure.

Use of the Aerogen Ultra hand held device on room air, with mouthpiece and expiratory filter is not considered an AGMP.

Equipment and Supplies

- Aerogen Solo Pro-X controller with AC/DC power cable and control module cable (If ventilator does not have built in Aerogen Neb connection)
- Disposable Aerogen Solo nebulizer unit and T-piece adaptor
- Aerogen Ultra Handheld Device
- Pall or Dual wall filters
- Medications

Aerogen use with High Flow Therapy

1. Perform Point of care risk assessment for AGMP
2. Gather equipment and plug in Aerogen Controller
3. Place Aerogen Solo T-piece adaptor on humidifier **dry side**, add nebulizer unit firmly to t-piece adaptor and connect to Controller
 - a. Confirm Arrow on T-Piece is pointing in direction of flow within the unit
4. Confirm Medication order and add medication to Nebulizer (max 6ml)
5. Start nebulizer by pressing on/off button once. (30 minutes run time)
6. Assess nebulizer for visual aerosol



Aerogen use with Non Invasive Ventilation

1. Perform Point of care risk assessment for AGMP
2. Gather equipment and plug in Aerogen Controller
3. If using coaxial circuit on Hamilton T1: Place Aerogen Solo T-piece adaptor **at patient wye between HME and patient**, add nebulizer unit firmly to t-piece adaptor and connect to Controller. **Make sure nebulizer always in upright position.**

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- a. If using dual limb circuit place Aerogen Solo T-piece adaptor on humidifier **dry side**, add nebulizer unit firmly to t-piece adaptor and connect to Controller
 - i. Do not have HME between nebulizer and patient.
- b. Confirm Arrow on T-Piece is pointing in direction of flow within the unit
4. Confirm medication order and add medication to Nebulizer (max 6 mL)
5. Start nebulizer by pressing on/off button once. (30 minutes run time)
6. Assess nebulizer for visual aerosol

Aerogen use with invasive Ventilation

1. Perform Point of care risk assessment for AGMP
2. Gather equipment and plug in Aerogen Controller
3. Place Aerogen Solo T-piece adaptor on humidifier **dry side**, add nebulizer unit firmly to t-piece adaptor and connect to Controller
 - a. Confirm Arrow on T-Piece is pointing in direction of flow within the unit
 - b. IF USING T1 VENT WITH HME: Place at patient wye between patient and HME.** Make sure nebulizer in upright position.
4. Confirm Medication order and add medication to Nebulizer (max 6ml)
5. Start nebulizer by pressing on/off button once. (30 minutes run time)
 - a. Press and hold on/off button for continuous neb function.
6. Assess nebulizer for visual aerosol



Aerogen Solo Nebulizer with Aerogen Ultra Handheld Device

1. Perform point of care risk assessment for AGMP
2. Assess patient's ability to hold device or require aerosol mask.
3. Gather equipment and plug in Aerogen Controller
4. Place the Aerogen Solo firmly into the Aerogen Ultra and add expiratory filter to expiratory side of mouthpiece.
5. Confirm medication order and add medication into the Aerogen Solo

6. Connect controller cable to Aerogen Solo, if supplemental oxygen is required, connect oxygen tubing. **Make sure nebulizer always in upright position.**
 - a. Note: The Aerogen Ultra can nebulize with or without O₂ flow when using the mouthpiece. Adding O₂ flow increases risk of AGMP
 - b. **When using Aerosol mask, Bias flow needed of 1 to 6 L (max 2 L for pediatrics less than 18 years)**
7. Start nebulizer by pressing on/off button once. (30 minutes run time)
8. Assess nebulizer for visual aerosol

NOTE: Aerogen Ultra is not considered an AGMP if there is no Bias flow used, and expiratory filter on the Ultra handheld device.



Aerogen Ultra Setup with mouthpiece



Aerogen Ultra Setup with Mask

Cleaning

1. Aerogen Solo and Aerogen Ultra devices are both disposable single patient use.
2. The Aerogen Controller and cable need wiped between patients with disinfectant wipes

Documentation

1. Document any medications given in the MAR, confirming dose and method of administration (nebulized).

Related Documents

[B-00-12-12010](#): Delivery of Medication by MDI to the Ventilated Patient

References

1. Aerogen. (2022). Discover Aerogen Solo. *Aerogen*. <https://www.aerogen.com/products/aerogen-solo>
2. Hamilton Medical. (2020). Nebulizer positioning guidelines. *Hamilton Medical*. Nebulizer-positioning-quick-guide-en-ELO2020-124-TW.01.pdf

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