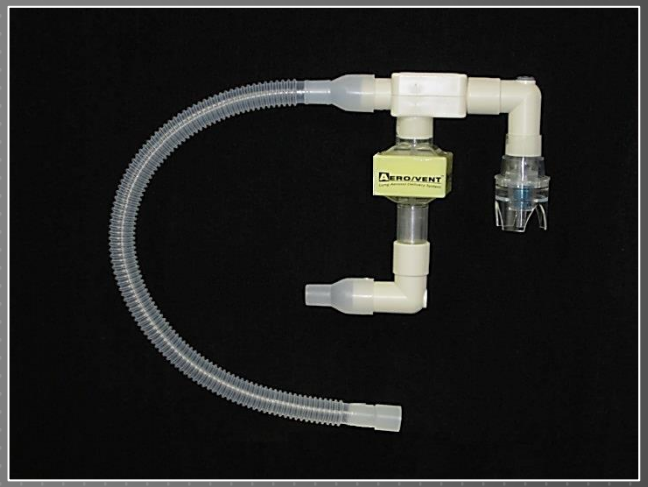
Aero/Vent™ Jr.
Radioaerosol Lung Imaging System
for
Ventilator Dependent Patients:

Instructions for Use



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 AV-100H Step by Step Instructions Rev B

Aero/Vent™ Jr. Radioaerosol Kit Selection

Special Breathing Situation	Radioaerosol Kit to Use
Tracheotomy	Use special kit for ventilator dependent patients (#AV-100HV).
Trach Opening (ventilator not required for breathing)	Cover trach opening and use regular kit with mouthpiece or face mask. Do not use special kit for ventilator dependent patients.
Tracheal Intubation	Use special kit for ventilator dependent patients (#AV-100HV).
Nasotracheal Intubation	Use special kit for ventilator dependent patients (#AV-100HV).
Bi-Pap Machine	Remove patient from Bi-Pap machine. Use regular kit with face mask (#AV-100HM).

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Assembly

- Remove components from plastic bag. Components include:
  - Aero/Vent™ Jr. manifold with attached nebulizer and HEPA filter.
  - Flex tube with 15mm airway connector on one end and 22mm adapter on the other
  - Elbow/reducing adapter (22mm-15mm)
  - "Caution Radioactive Material" label
  - Disposal plastic bag (retain re-sealable packaging bag for this purpose).

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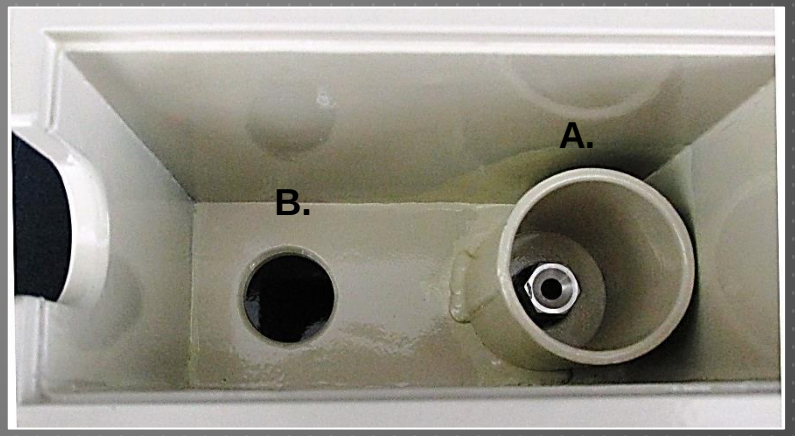
- Attach 22mm end of flex tube to manifold port.
- Open the lid of the Aero/Vent™ Jr. shield and insert manifold.
  A. The nebulizer will be directed into the lead cylinder.
  B. The HEPA filter will extend through the exhaust opening at the bottom.
- Press down firmly to ensure the nebulizer is seated securely in the silver oxygen/air port.



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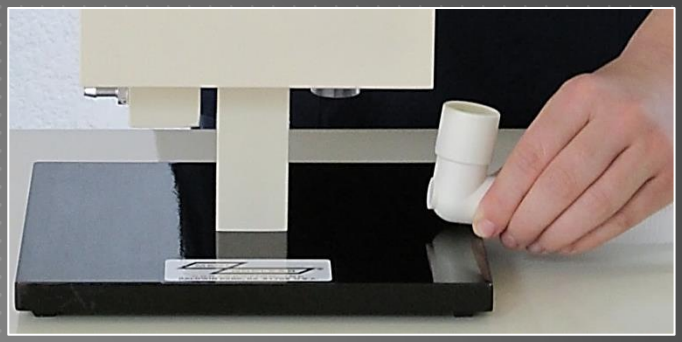
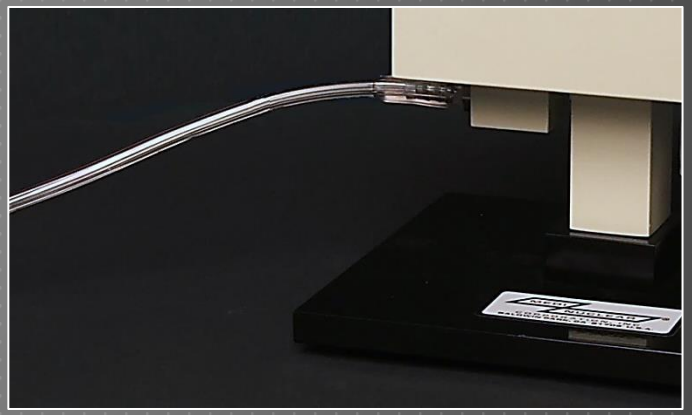
- Attach the provided 22mm-15mm reducing adapter to the elbow.
- While pressing down on the top of the manifold, attach the elbow/adapter to the HEPA filter. The HEPA filter can be reached through the exhaust opening in the underside of the shield.
- Recheck the manifold to ensure it is seated securely in the shield.
- Connect the oxygen tube to the chrome oxygen inlet on the side of the shield.





Note: Use only the provided oxygen tube (#IV-605), as other oxygen tubes may be slightly over-sized and could cause oxygen leakage.

Caution: Do not use a humidifier in oxygen/airline.

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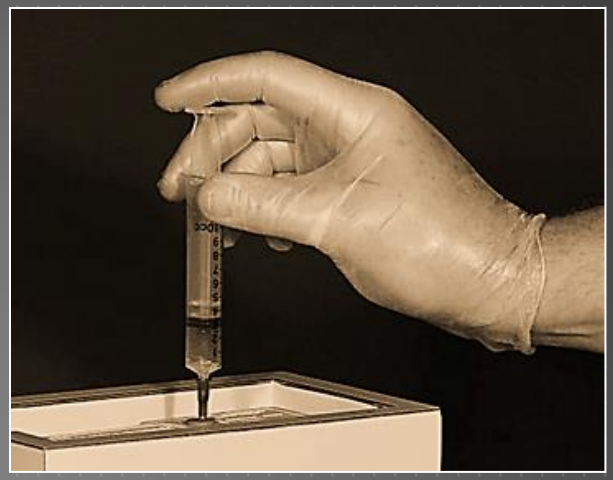
- Prepare ^{99m}Tc-DTPA, or an equivalent alternative, in accordance with the manufacturer's instructions.

- Clinical studies have shown the following protocol to be effective for pre-perfusion ventilation studies:
  A. Air Flow Rate: 8-12 L/minute
  B. Concentration: 15-20 mCi/mL ^{99m}Tc-DTPA
  C. Dose: 30-40 mCi
  D. Volume: Minimum of 2mL
  E. Aerosol Inhalation Period: 3-5 minutes



- Using a shielded syringe and needle, inject 2 mL of ^{99m}Tc-DTPA solution through the center of the grey stopper in the top of the manifold.

  Note: Keep syringe vertically upright to inject maximum amount of liquid directly into nebulizer.

- Close shield lid after ensuring manifold is securely seated.

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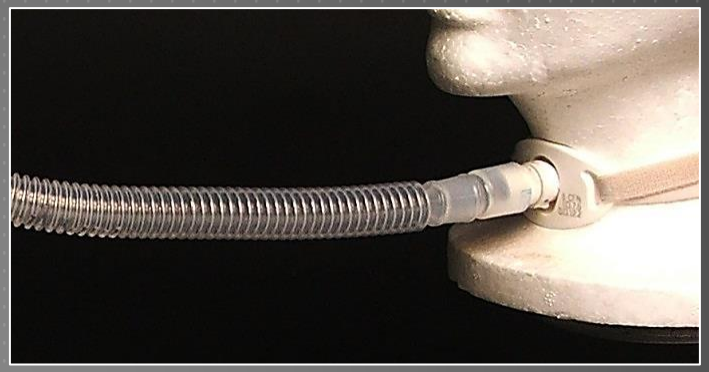
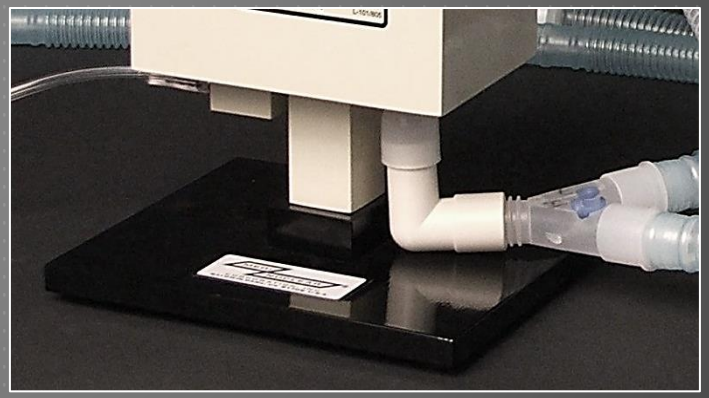
Patient Connection and Operation

- Disconnect ventilator "Y" from patient's endotracheal or tracheotomy tube and connect the 15mm end of the flex tube to the patient's endotracheal or tracheotomy tube.
- A removable 22mm x 15mm adapter is provided for connecting the "Y" tube. Connect ventilator "Y" to elbow/adapter extending from the HEPA filter exhaust opening.





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A Note to the Respiratory Therapist

In simple terms, dosing for a lung scan on a ventilator dependent patient is basically the same as performing a nebulizer treatment. Therefore, Respiratory Therapists are recommended to be present during the exchange and connection of tubing from the ventilator to the Aero/Vent™ Jr. Radioaerosol System should ventilator related questions arise.

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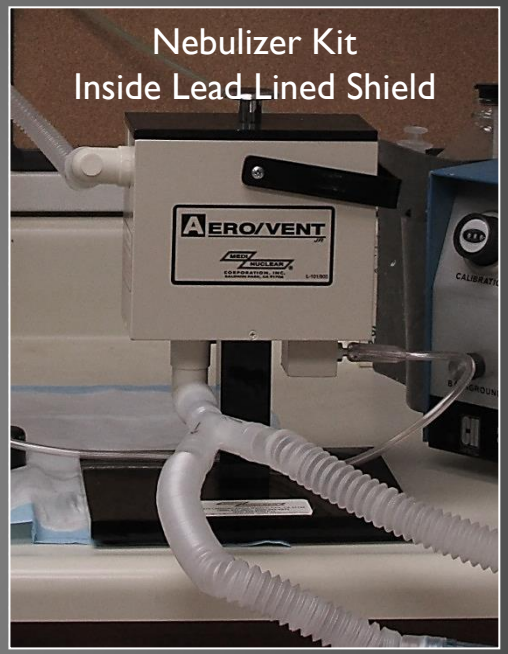
A Note to the Respiratory Therapist (Continued)

The main differences between a nebulizer treatment and radioaerosol delivery are:

1. The oxygen flow rate delivered to the Aero/Vent™ Jr. Radioaerosol System must be 8-12 L/minute to allow the liquid radioisotope in the nebulizer to create a mist. Dosing requires approximately 3-5 minutes, which is less than most nebulizer treatments.

2. Because a radioisotope is being nebulized, the Aero/Vent™ Jr. nebulizer kit is housed in a lead lined shield to provide personal protection, and includes a HEPA filter for exhalation to protect the ventilator from contamination. Please note: The radioisotope has been deemed medically safe for healthcare workers to continue caring for their patients.



Nebulizer Kit
Inside Lead Lined Shield

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A Note to the Respiratory Therapist (Continued)

1. Airflow will always take the path of least resistance. Air will always move from areas of high pressure to areas of low pressure.

2. If for any reason there is excess airflow, all ventilators have an expiratory relief valve to prevent over ventilation and to avoid Volutrauma/Barotrauma.

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- Gradually turn on the oxygen, setting the flow rate at 8-10 liters/minute.

  Caution: At the normal 50 PSI pressure for the oxygen supply, an abrupt increase of flow rate from 0 to 10 liters/minute may detach the air line from the Aero/Vent™ Jr. shield.

- Ventilate the patient until the desired amount of radioactive DTPA, or an equivalent alternative, has deposited in the lungs for imaging purposes. This will normally be in the order of 3-5 minutes.

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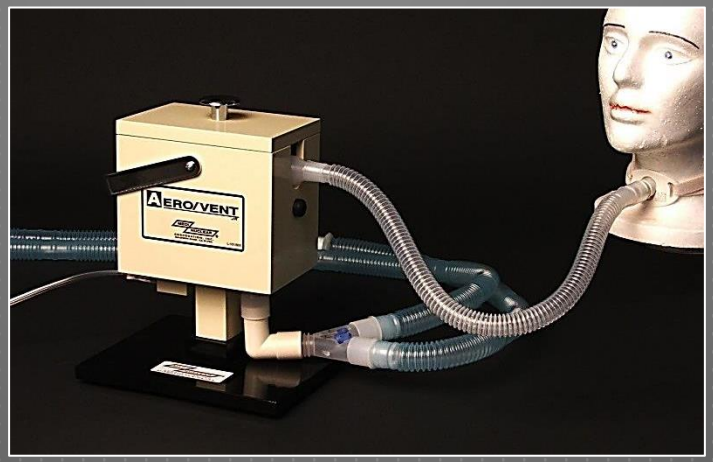
- After radioactive DTPA delivery, turn off the oxygen and continue the patient ventilation process for four or five breaths to clear the system of radioaerosol.
- Quickly disconnect the aerosol system from the patient and reattach the ventilator "Y" piece to the patient's tracheotomy or endotracheal tube.
- Optionally, if the patient has a tracheotomy, the disposable inner cannula (if so equipped) may be replaced after radioaerosol delivery to reduce the tracheal hot spot caused by accumulation of radioactivity in the trach tube.
- The patient imaging procedure may be started as soon as convenient.



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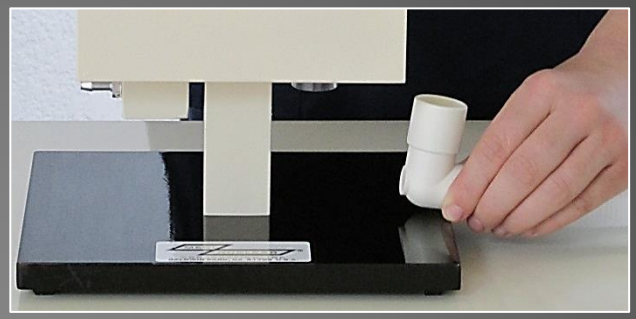
Disposal

Caution: Do not disconnect oxygen tube until aerosol manifold has been removed from shield.



- Remove elbow/adapter from HEPA filter extension.

- Open shield lid. Remove used aerosol kit from the shield.

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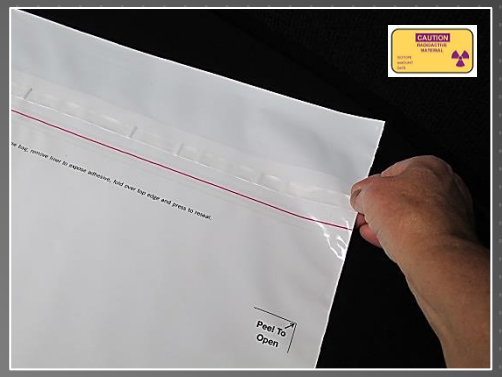
- Place all used items in disposal bag provided. Remove seal strip from the bag to expose the unused tape. Seal the bag securely.
- Quickly attach the "Caution" label, and place the unit in a shielded disposal area to allow for radioactive decay.
- Discard decayed waste according to the radioactive waste procedures established by your facility.



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Aero/Vent™ Jr. Ordering Information

Catalog No.	Product Description	Qty/Units
AV-100H	Aero/Vent™ Jr. Radioaerosol Kit, Two Tube System	24/cs
AV-100HS	Aero/Vent™ Jr. Radioaerosol Kit with Safety Shield™ Mouthpiece Two Tube System	24/cs
AV-100HM	Aero/Vent™ Jr. Radioaerosol Kit with Mask, Two Tube System	24/cs
AV-100HV	Aero/Vent™ Jr. Ventilator Kit for Ventilator Dependent Patients	6/cs
IV-605	Oxygen Supply Tubing, Secure-Fit Connectors, 7 ft.	3/pk
AV-101A	Aero/Vent™ Jr. Pole Mount/Table Top Lead Shield	Each
UV-204	Universal Mobile Cabinet™	Each
UV-204-SA	Universal Mobile Cabinet™ with Swing Arm	Each

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We're here to be of assistance!

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