

# AEROTECH™ I RADIOAEROSOL CONVENIENCE KIT

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## OPERATION MANUAL

177-124  
177-324



U.S. PATENTS #4,510,929 #4,703,753 #4,598,704 #4,823,784



# BIODEX

Biodex Medical Systems, Inc.

20 Ramsey Road, Shirley, New York, 11967-4704

Tel: 800-224-6339 (Int'l 631-924-9000),

Fax: 631-924-9241 Email: info@biodex.com, www.biodex.com

## AEROTECH™ I RADIOAEROSOL CONVENIENCE KIT

This manual contains operation procedures for the following products:

177-124	Convenience Kit, Radioaerosol, AeroTech™ I
177-324	Convenience Kit, Radioaerosol, AeroTech™ I with finer particle nebulizer

### INSTRUCTIONS FOR ASSEMBLY

**NOTE:** Follow departmental procedures when handling radioactive materials.



**CAUTION:** Check that filter and nebulizer are securely affixed to their respective connectors.

1. Remove the AeroTech™ I aerosol unit from the plastic bag.  
Components include:
  - AeroTech™ I Delivery System
  - Patient Mouthpiece
  - Nose clip
  - Yellow Plastic Disposal Bag
2. Place aerosol unit in shield. Insert the bottom tip of the nebulizer (B) into the O<sub>2</sub> air inlet (E). Ensure that the injection port and the aerosol flow lines are positioned in shield cutouts (H).
3. The injection septum should be visible through the injection area on the side of the shield.
4. Place lid on shield with the lead flap (F) to the side of the injection septum (D) allowing access for injection.

### INSTRUCTIONS FOR USE

Patient may be supine or in a sitting position.

1. **Pre-perfusion:** The generally accepted dosage of radioactivity is 15 to 30 mCi in 2 ml of injectable saline. Three to five minutes of breathing time should be adequate to collect 100,000 to 200,000 counts.

**Post-perfusion:** The generally accepted dosage of radioactivity is 40 mCi in 2 ml of injectable saline. Four to six minutes of breathing time should be adequate to collect sufficient counts to override base counts by 1.5 to 3 times.

**NOTE:** Individual breathing times may vary. More extended breathing time may be required when using a face mask or the finer particle delivery system, product number 177-324.

2. Using a shielded syringe and needle, inject Tc-99m DTPA through the center of the rubber septum and into the nebulizer. Typically, 40 mCi of Tc-99m DTPA is used in approximately 2 ml of injectable saline.
3. Rotate the AeroTech™ I shield lid to cover the injection port with the lead cover flap.
4. Place the mouthpiece in the patient's mouth and attach the nose clip. Ensure the patient maintains a good seal on the mouthpiece.

**CAUTION:** Squeeze the nose clip to open away from the patient's face. Once the nose clip is squeezed and opened, then approach patient and attach. If the patient cannot tolerate a mouthpiece, a face mask may be used. Instruct the patient to take several practice breaths with the system in place to provide familiarity with the use of the AeroTech I device.

5. Connect only one end of O<sub>2</sub> tubing to the supply and set the flow to 10-11 liters per minute. Confirm that the patient is ready to begin the procedure. Instruct patient to breathe normally



**CAUTION:** Immediately terminate oxygen flow should the patient release mouthpiece during administration of aerosol.



**PRECAUCIÓN:** Terminar inmediatamente el flujo de oxígeno si la boquilla de liberación del paciente durante la administración de aerosol.

6. Connect the other end of the O<sub>2</sub> supply tubing to the AeroTech I shield inlet tube to start the aerosol delivery procedure. Breathing time of three to five minutes should be adequate.
7. To minimize throat and stomach activity, ask the patient to communicate the need to expel excess saliva by raising their hand. Turn off the oxygen supply and collect saliva in a disposable cloth or cup.



**CAUTION:** Saliva will contain radioactivity and should be handled and disposed of in accordance with appropriate procedures. Resume procedure.

8. When desired count rate has been reached, turn off the O<sub>2</sub> air supply. Instruct the patient to take an additional four or five breaths to purge the system of any residual aerosol.
9. Remove the mouthpiece and nose clip or face mask. Have the patient expel any accumulated saliva in a disposable cloth. If a face mask was used, wipe the patient's face with a damp, disposable washcloth. To reduce esophageal activity, the patient may drink a small amount of water.
10. Imaging procedure: For post-perfusion studies, repeat anatomical views obtained during the perfusion study as required. Collect adequate counts to override base counts by a factor of 1.5 to 3 times.

Multiple views can be taken during a single diagnostic study.

#### **INSTRUCTIONS FOR DISPOSAL**

1. Disconnect the oxygen/air supply from the AeroTech I shield oxygen/air inlet tube.
2. Remove the lid from the AeroTech I Shield. Locate delivery system ejection button.
3. Press down firmly on ejection button. The nebulizer will disconnect from the oxygen/air inlet tube.
4. Remove the delivery system from the shield and place it in the plastic disposal bag provided.
5. Label and dispose of entire bagged system in accordance with departmental radioactive and biohazard waste disposal procedures.

## AEROTECH™ I Radioaerosol Convenience Kits

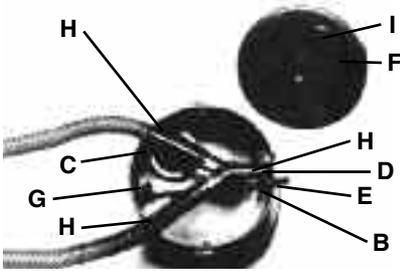


Figure 1. Top view.

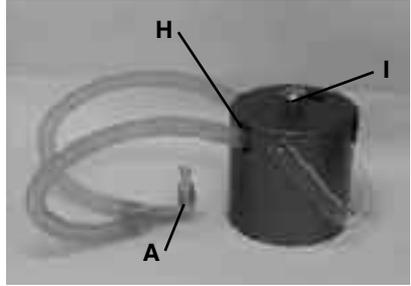


Figure 2. AeroTech I Aerosol Unit.

- A. Mouthpiece/Y-tube assembly
- B. Nebulizer
- C. Filter
- D. Injection septum
- E. Shield O<sub>2</sub> air inlet tube
- F. Lead flap
- G. Ejection button
- H. Shield cutouts
- I. Opening for respirator tail

Authorized European Community Representative:



Emergo Europe  
Prinsessegracht 20  
2514 AP, The Hague  
The Netherlands



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