



**State of Emergency – Use of Spacer-Metered Dose Inhaler in  
Place of Nebulizer for Administration of Albuterol**

**BACKGROUND:**

The following procedure is authorized only as long as a public health emergency is in force. Paramedics have discretion whether they implement this procedure or default to the use of a Hand Held Nebulizer (HHN) for albuterol administration. This procedure is offered as an option for use to reduce risk from aerosolization during the COVID-19 pandemic.

**INDICATIONS:**

- Any situation in which an albuterol nebulizer is indicated
- Albuterol nebulizer cannot be given or is less desirable due to procedural aerosol generation

**CONTRAINDICATIONS:**

- Altered Mental Status
- Allergy to any ingredient delivered by MDI
- Patient unable to assist in performing procedure

**EQUIPMENT:**

- Unused albuterol metered dose inhaler (MDI)
- Spacer appropriate for MDI
- Oxygen delivery equipment

**PROCEDURE:**

1. Assess the patient and ensure they can cooperative effectively with use of the spacer-MDI device. Some patients in extremis may only be able to use a HHN.
2. Verify an indication for albuterol.
3. Provide supplemental oxygen at a flow rate appropriate for the patient and condition.
4. Remove the nozzle cover of the MDI and attach it to the spacer.
5. Have the patient exhale completely and seal his/her lips around the spacer mouth piece
  - a. If using a mask on the spacer, gently create a seal against the face
6. Squeeze one puff of the inhaler into the spacer.
7. Have the patient immediately take a slow deep breath to the extent possible, remove the spacer, and have the patient hold his/her breath for 5-10 seconds or as long as comfortable.
  - a. If using a mask, have the patient take 4 to 6 slow deep breaths with the mask still in place.
8. Allow the patient to resume breathing normally

Approved:

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9. Repeat the dose every 20-30 seconds as needed up to a total dose of 20 puffs following the same procedure. Administration of 10 puffs from the spacer-MDI device is roughly equivalent to 2.5 mg of albuterol given via HHN.
  10. Resume oxygen therapy after medication administration
  11. Update vital signs every 10 minutes and document appropriately
  12. **NOTE:** MDIs and spacers are for single patient use only. Do NOT reuse the MDI or spacer on another patient.

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Approved:

*Carl Schultz, M.D.*

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