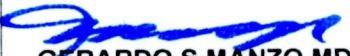
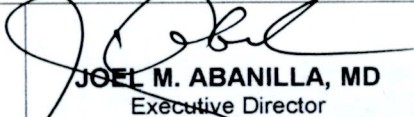

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	<b>GUIDELINES</b>	
	Document Title	Effective Date: June 2020
	<b>INTERIM GUIDELINES ON METERED DOSE INHALER USE</b>	
		Revision Number: 0
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<b>REVISION HISTORY</b>			
Rev No.	Review Date	Description of Change	Date of Next Review
			June 2021

Reviewed by:	 <b>GERARDO S MANZO MD</b> Incident Commander	Approved by:	 <b>JOEL M. ABANILLA, MD</b> Executive Director
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## I. OBJECTIVE

To establish the proper guidelines for metered dose inhaler use as an alternative for nebulization during the critical time of CoVid- 19 pandemic.

## II. Description

A metered dose inhaler (MDI) is a small device that delivers a measured amount of medication to the patient's lungs. The patient gets the medication with each spray (puff) when he breathe in. MDIs use a chemical propellant to produce the spray (puff) . This propellant carries the measured amount (dose) of medicine into the patient's lungs. Inhalers that use powders are called dry powder inhalers (DPIs) and do not use propellants.

Another mode of aerosol medication delivery is via a nebulizer. A nebulizer is a machine that sprays a fine, liquid mist of medicine. The medicine is delivered with a mouthpiece or mask. Nebulizers are often used by people who cannot use metered-dose inhalers, such as infants and young children, and people with severe asthma. Nebulizers are reported to increase droplet dispersion, causing uncertainty in use in COVID patients, thus, the use of MDIs during the pandemic has been recommended.


## III. REQUIREMENTS

Medication canister  
MDI boot  
Spacer  
Personal Protective Equipment  
N95 mask/ respirator  
Face shield/ safety goggles  
Disposable gloves

## IV. PROCEDURE

### A. Using MDI with spacer


1. The Respiratory Therapist (RT) shall wear the appropriate personal protective equipment and shall adhere to correct hand hygiene prior to administering the medication.
2. The RT shall ensure that the metal canister (medication) is correctly inserted into the plastic "boot" or holder.
3. The cap shall be removed from the mouthpiece of both the MDI and the spacer.
4. The MDI with attached spacer shall be shaken for several times.
5. The patient shall breath out, away from the spacer, to the end of his normal breath.

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6. The spacer shall be placed to the patient's mouth, past his teeth and above the tongue. The patient shall be instructed to close his mouth around the mouthpiece.
  7. Press down on the top of the metal canister once and the patient shall be instructed to breath in deeply and slowly through his mouth.
  8. The patient shall hold his breath for 5 to 10 seconds before instructed to breath out slowly.
  9. If the patient is instructed to take more than one (1) puff, he shall wait for about 15 to 30 seconds (or as directed by the package insert) before taking the next puff. The patient shall repeat steps 5-8.
  10. The cap shall be replaced on the mouthpiece of the MDI inhaler and spacer after usage. If the patient is taking steroid, he shall rinse out his mouth with water after medication usage.
- B. Using MDI without spacer/ chamber**
1. The Respiratory Therapist (RT) shall wear the appropriate personal protective equipment and shall adhere to correct hand hygiene prior to administering the medication.
  2. The RT shall ensure that the metal canister (medication) is correctly inserted into the plastic "boot" or holder.
  3. RT shall shake the inhaler several times to mix the propellant and medicine.
  4. Remove the cap off from the mouthpiece
  5. The patient shall breath out to the end of a normal breath.
  6. The inhaler shall be held in upright position and shall be placed in the patient's mouth, past his teeth and above the tongue. The patient shall be instructed to close his mouth around the mouthpiece.
  7. Press down on the top of the metal canister once and the patient shall be instructed to breath in deeply and slowly through his mouth.
  8. The patient shall hold his breath for 5 to 10 seconds before instructed to breath out slowly.
  9. If the patient is instructed to take more than one (1) puff, he shall wait for about 15 to 30 seconds (or as directed by the package insert) before taking the next puff. The patient shall repeat steps 5-8.
  10. The cap shall be replaced on the mouthpiece of the MDI inhaler and spacer after usage. If the patient is taking steroid, he shall rinse out his mouth with water after medication usage

## **V. REFERENCES**

1. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/inhalers-and-nebulizers>
2. <https://www.amitahealth.org/assets/documents/covid-19-playbook/nebulized-vs-mdi-medication-administration-guidance-amita-health-3-31-2020.pdf>

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3. [www.thoracic.org](http://www.thoracic.org)