



Proper Use of Inhalers and Nebulizers

Dr. Montaha Al-Iede, MD, DCH, FRACP

Introduction

- **What is an Inhaler?**
- **Definition:** A device used to deliver medication directly into the lungs.
- **Types:**
 - Metered-Dosed Inhaler (MDI)
 - Dry Powder Inhaler (DPI)
 - Soft mist inhaler (SMI)





RESPIGEN
salbutamol
100mcg



SALAIR
salbutamol
100mcg



SALAMOL
salbutamol
100mcg

Delisted on
1st April 2017



VENTOLIN
salbutamol
100mcg



BRICANYL
terbutaline
250mcg

SHORT ACTION RELIEVERS SABA

short acting beta-2
adrenoceptor agonist



FLIXOTIDE
fluticasone
50mcg
125mcg
250mcg



FLOAIR
fluticasone
50mcg
125mcg
250mcg



FLIXOTIDE
fluticasone
50mcg
100mcg
250mcg



PULMICORT
budesonide
100mcg
200mcg
400mcg



BECLAZONE
beclomethasone
50mcg
100mcg
250mcg



QVAR
beclomethasone
50mcg
100mcg

PREVENTERS STERIOD

corticosteroid



SEREVENT
salmeterol
25mcg



METEROL
salmeterol
25mcg



SEREVENT
salmeterol
50mcg



OXIS
efomoterol
6mcg



FORADIL
efomoterol
12mcg

CONTROLLERS LABA

long acting beta-2
adrenoceptor agonist



SERETIDE
fluticasone /
salmeterol
50mcg / 25mcg
125mcg / 25mcg



REXAIR
fluticasone /
salmeterol
50mcg / 25mcg
125mcg / 25mcg



SERETIDE
fluticasone /
salmeterol
100mcg / 50mcg
250mcg / 50mcg



SYMBICORT
budesonide /
efomoterol
100mcg / 6mcg
200mcg / 6mcg
400mcg / 12mcg



VANNAIR
budesonide /
efomoterol
100mcg / 6mcg
200mcg / 6mcg



BREO ELLIPTA
fluticasone furoate /
vilanterol
100mcg / 25mcg

COMBINATION STERIOD/LABA

corticosteroid / long acting
beta-2 adrenoceptor agonist

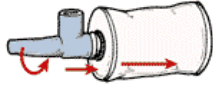
Metered-Dosed Inhaler (MDI)



- The most common type of inhaler is the pressurized metered-dose inhaler which is made up of 3 standard components: a metal canister, plastic actuator, and a metering valve.
- On activation, the metered-dose inhaler releases a fixed dose of medication in aerosol form.
- Requires significant coordination as a person must discharge the medication at or near the same time that they inhale in order for the medication to be effective.



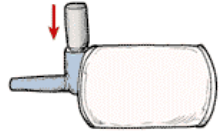
How to Use a Metered-Dose Inhaler with an InspirEase® Spacer



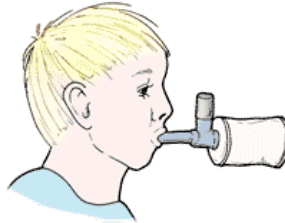
1. Attach the inhaler mouthpiece to the blue reservoir bag by matching the tabs in the reservoir bag. Push in, twist, and lock. Pull the blue reservoir bag all the way open so there are no wrinkles.



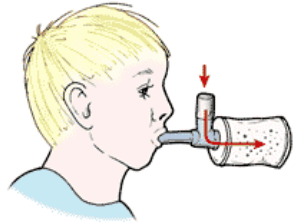
2. Shake the inhaler canister.



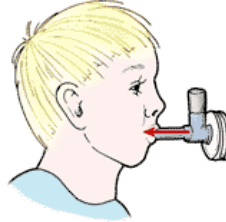
3. Attach the canister to the inhaler mouthpiece.



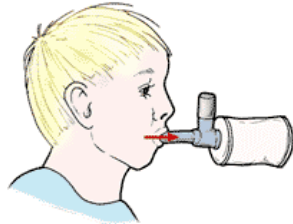
4. Put the InspirEase mouthpiece between the teeth and seal the lips around it.



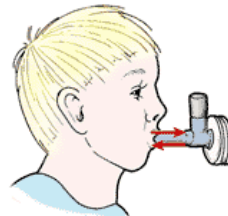
5. Depress the metered-dose inhaler. The medication will be trapped in the reservoir bag.



6. Breathe in slowly for 3 to 5 seconds. (The reservoir will collapse as you inhale.) Hold your breath for 5 to 10 seconds.



7. Breathe out slowly back into the reservoir bag.



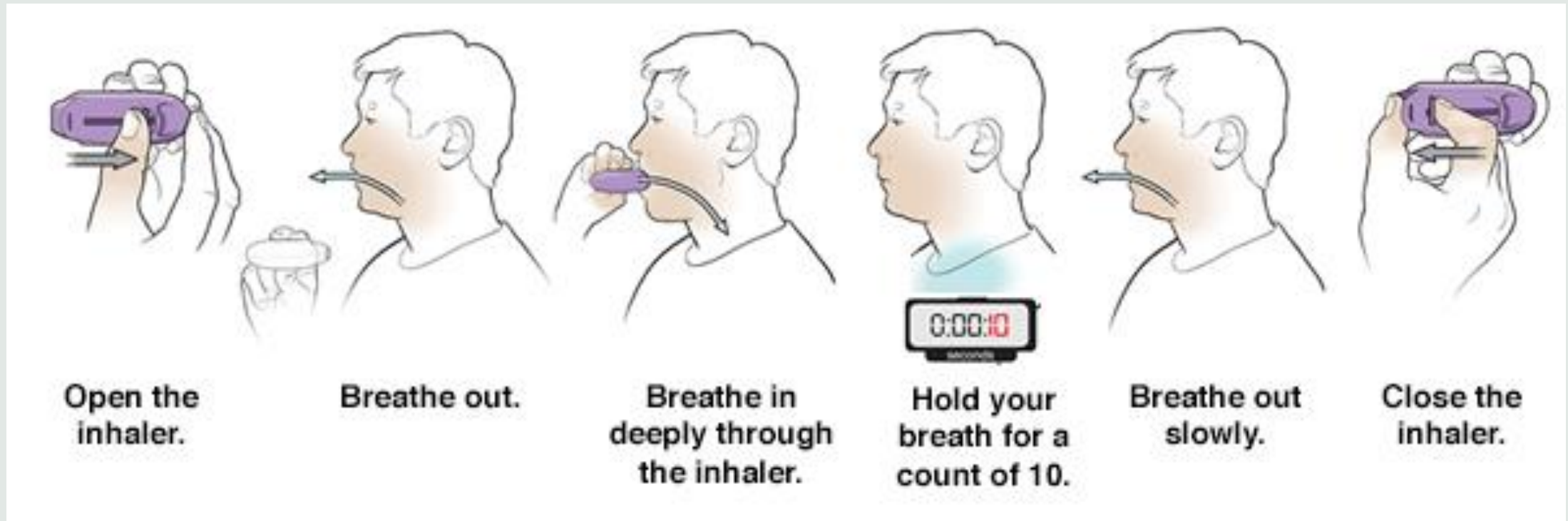
8. Still using the bag, breathe in and out slowly once or twice more.

Dry powder inhaler (DPI)

- Releases a metered or device measured dose of powdered medication that is inhaled through a DPI device.
- This device usually contains a chamber in which the powdered medication is deposited prior to each dosage.



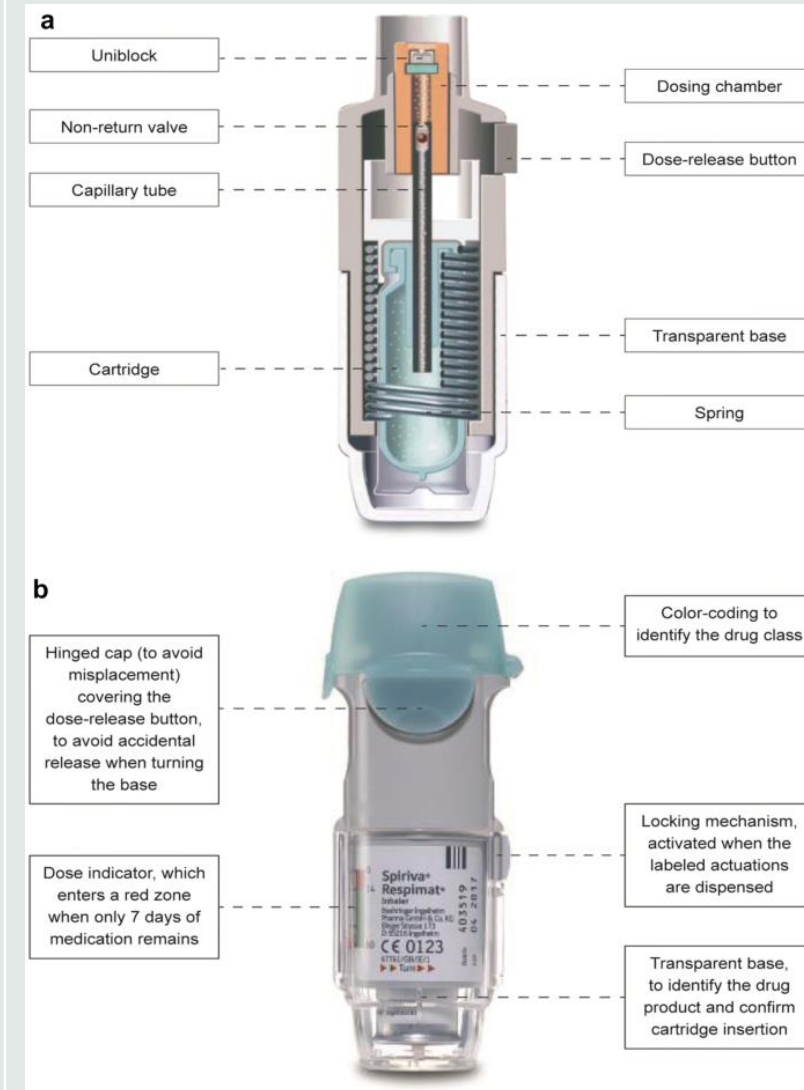
How to Use a Dry Powder Inhaler (DPI)





Soft mist inhaler (SMI)

- Releases a light mist containing medication without the need for a suspension; upon pressing a button, the inhaler creates mist of medication, allowing for inhalation into the lungs.
- SMIs suspend inhaled medications for roughly 1.2 seconds, which is a longer than the average MDI inhaler suspension time period.
- This requires less coordination when using and may be helpful for young patients or patients that find the MDI inhalers difficult to use.



What are the benefits of using inhalers?

- It delivers medication directly to your lungs.
- Daily treatments can manage the symptoms of chronic lung conditions and other illnesses.
- Rescue inhalers can open up your airways during an attack or emergency situation until you can get your symptoms well-managed.

Indications

- Inhalers are used in a variety of different medical conditions with diseases of the lungs and respiratory system being among the most common.
- Inhaled medications help to decrease airway inflammation and obstruction.
- Two of the most common conditions that warrant inhaler therapy are **asthma** **and chronic obstructive pulmonary disease.**

Common Mistakes to Avoid

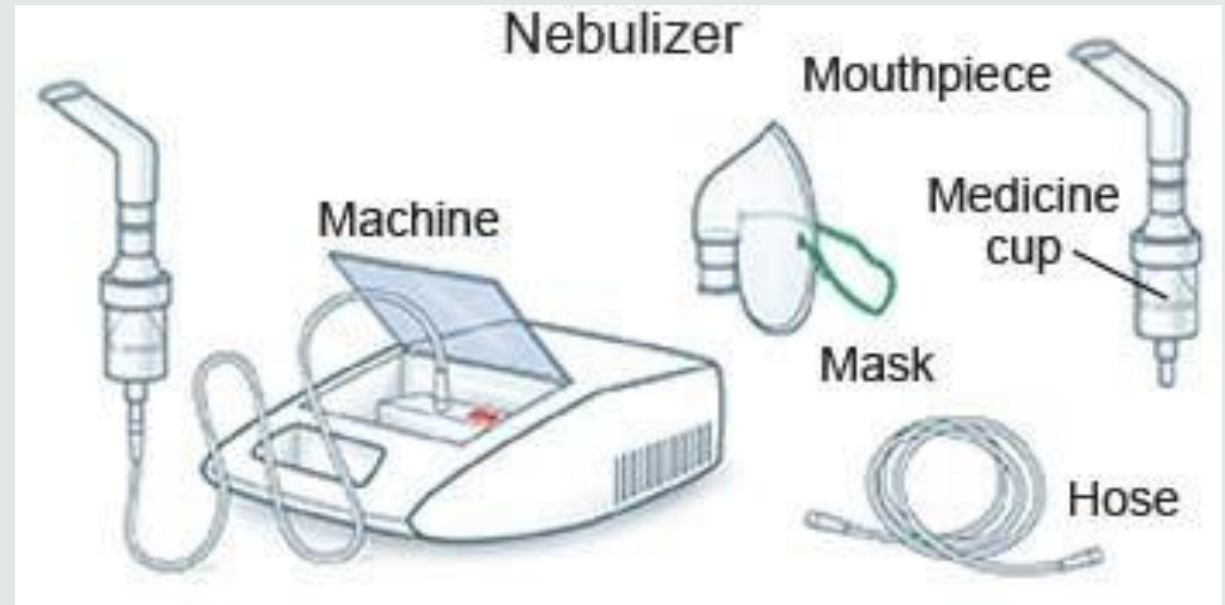
- Not shaking the inhaler before use.
- Exhaling into the inhaler.
- Not holding breath after inhalation.

Maintenance and Cleaning

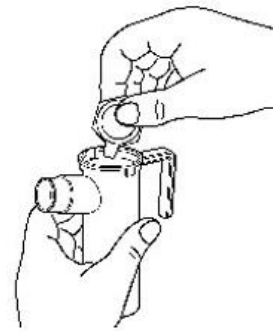
- Clean the mouthpiece weekly with warm water.
- Let it air dry completely.

What is a Nebulizer?

- **Definition:** A device that turns liquid medication into a mist for inhalation.
- **Components:** Compressor, tubing, mouthpiece/mask, medication cup.

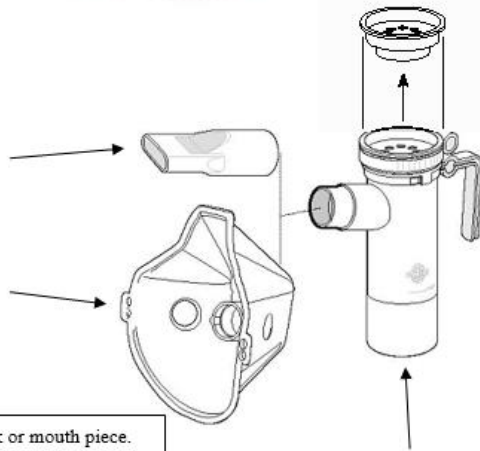


HOW TO USE A NEBULIZER



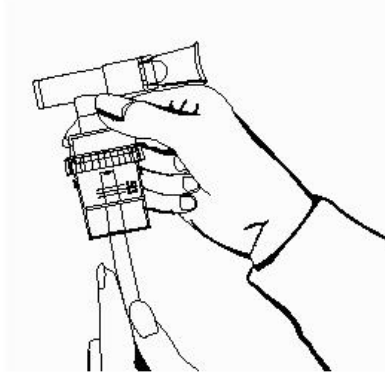
1. Put Medication in the cup.

Mouth Piece
Or
Mask



2. Choose mask or mouth piece.

Nebulizer cup



3. Attach tubing to cup



4. Place mask on face (for babies and smaller children) or insert mouth piece (for older children and adults).

Once you turn on the machine, a mist will start to flow from the mask or mouth piece, this is the medication your child needs to breath in. The medication will take about 5-10 minutes, sometimes longer. You will know when it's done when the mist stops flowing out.

Babies and smaller children may fight to take off the mask; sometimes a distraction might help such as watching TV, listening to music, giving the baby a bottle or pacifier. All children are different and you may have to learn which way works better for them.

HOW TO USE



1. WASH YOUR HANDS



2. PLACE THE MEDICATION INTO THE CUP



3. ATTACH THE MOUTHPIECE



4. CONNECT THE TUBE



5. TURN ON THE AIR COMPRESSOR



6. CONTINUE TO INHALE THE MEDICATION



Side Effects

Dry or irritated throat, temporary or occasional cough

Sneezing, stuffy or itchy nose, watery eyes.

Burning or bleeding of the nose.

Nausea, and heartburn.

Unusual or unpleasant taste in patients' mouth.

Common Mistakes to Avoid

- Using incorrect medication dosage.
- Not cleaning the nebulizer properly.
- Not sitting upright during treatment.

Maintenance and Cleaning

- Clean the cup, mask, and tubing after each use with warm, soapy water.
- Disinfect weekly by soaking in a vinegar solution.
- Replace parts as per the manufacturer's instructions.