

USE OF INHALED ASTHMA MEDICATIONS

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WHY CHOOSE INHALATION?

Inhalation is generally the most effective route for routine delivery of medications to treat asthma because it delivers the medication directly to the area of difficulty – the bronchi and bronchioles leading to the lungs.

WHAT KINDS OF MEDICATIONS ARE DELIVERED THIS WAY?

Four kinds of medications are delivered this way:

- κ **Inhaled corticosteroids** – also called topical corticosteroids. Some examples of inhaled corticosteroids are *beclomethasone*, *budesonide*, *flunisolide*, *fluticasone* and *triamcinolone*. They work to decrease airway inflammation, oversensitivity, swelling and constriction of the bronchi and the bronchioles, and mucus production. It is important to continue them even if you feel well because they are maintenance medications that help to lessen asthma symptoms.
- κ **Bronchodilators** – also called beta₂-agonists. Some examples of inhaled bronchodilators are *salbutamol*, *terbutaline*, and *fenoterol*. They are short-term “rescue” medications to immediately relieve asthma symptoms.
- κ **Non-steroidal anti-inflammatory medications** – *cromolyn* and *nedocromil*. They work to reduce inflammation and can help prevent asthma symptoms. Although less potent than inhaled corticosteroids, these drugs rarely cause side effects. Just like inhaled corticosteroids, it is important to continue them even if you feel well, because they are maintenance medications that help to lessen asthma symptoms.
- κ **Anticholinergics** – *ipratropium bromide*. This works as a bronchodilator. It is also a short-term “rescue” medication to immediately relieve asthma symptoms.

HOW ARE THE MEDICATIONS DELIVERED?

There are three basic types of devices used to deliver inhaled medications: the metered dose inhaler (MDI), the nebuliser, and the dry powder inhaler.

METERED DOSE INHALER (MDI)

USE WITHOUT A SPACER

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HOW DOES IT WORK?

A chemical propellant is used to push the medication out of the metered dose inhaler (MDI). Although used to deliver different medications, many MDIs work in a similar way. The MDI can be used to deliver the medication directly into lungs or via a spacer or holding chamber.

PROPER METERED DOSE INHALER (MDI) TECHNIQUE – WITHOUT A SPACER

Ask your doctor to demonstrate the technique of using it. This should be done again at the pharmacy if necessary, and the technique should be reviewed at the follow-up doctor visits.

There are five steps:

1. **Preparation** – Take off the cap. Shake the MDI several times.
2. **Exhalation** – Stand up. Breathe out as much as possible.
3. **Lip closure** – Seal the mouth piece against closed lips (closed mouth method).
4. **Inhalation** – Actuate the device by pressing down firmly and fully the metal canister with the index finger while inhaling slowly and deeply.
5. **Breath holding** – Hold your breath for 4 to 10 seconds after maximum inhalation. To deliver a second dose (puff), wait 30 – 60 seconds. Shake the MDI again and repeat steps 2 to 5. Replace the mouthpiece cap when use is completed.

If your MDI is delivering a corticosteroid – e.g., beclomethasone – rinse your mouth with water after all the puffs have been delivered. Spit out the water. Do not swallow. This will reduce the yeast growth in your mouth.

PROPER MAINTENANCE OF THE MDI

Keep track of the doses (puffs) taken – Divide the number of inhalations per canisters by the number of doses needed each day to calculate how many days it will last. The method of immersing the inhaler into water to see if it floats in order to signify that it is empty is inaccurate.

Clean the inhaler thoroughly and frequently – Remove the metal canister and clean the plastic case and cap by rinsing thoroughly in warm, running water at least once a day. After thoroughly drying the plastic case and cap, gently replace the canister into the case and replace the cap. Wash the plastic mouthpiece with mild dish-washing detergent and warm water twice a week. Rinse and dry well before putting it back.

Test spray the inhaler – Do this before using it initially if it has not been used for a month or more. Thereafter, this does not need to be done before each use.

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METERED DOSE INHALER (MDI) USE WITH A SPACER

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HOW DOES IT WORK?

A chemical propellant is used to push the medication out of the metered dose inhaler (MDI). Although used to deliver different medications, many MDIs work in a similar way. The medication goes to the spacer from where it is breathed into the lungs. This method is used for young children and adults who have difficulty in co-ordinating the inhalation directly from the MDI.

WHAT IS A SPACER?

A spacer is a holding chamber which can be attached to the metered dose inhaler (MDI). It makes the MDI easier to use and adds to its effectiveness.

PROPER USE OF YOUR SPACER

1. **Assemble the spacer** — Push the notch of one half into the slot of the other half.
2. **Attach the MDI** – Shake the MDI a few times (holding it upright). Attach the MDI by the mouth-piece end to the back opening of the spacer.
3. **Exhalation** – Sit upright with back straight. Breathe out as much as possible.
4. **Lip closure** – Close your lips around the mouthpiece of the spacer. For children below 3 years, a Baby Mask attached to the front opening of the spacer helps the child to use the device more effectively.
5. **Inhalation** – Actuate the device once by pressing down the metal canister firmly and fully with the index finger while inhaling slowly and deeply. The spacer will “whistle” if you are breathing too quickly. *If the person is unable to inhale slowly and deeply, hold the spacer in place until 6 slow normal breaths have been taken (watch or listen for valve movement)*
6. **Breath holding** – Remove the spacer from your mouth. Hold your breath for 10 seconds. Breathe out.

PROPER MAINTENANCE OF THE SPACER

Wash the spacer – Wash the spacer with warm soapy water.

Don't rinse after washing – Don't rinse. Drip dry. This reduces the electrostatic charge so that the medication does not stick to the spacer sides.

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