

THE "INFO"-HALER



TAKE IN THE INFORMATION

An easy to understand, informative newsletter for our patients of all ages from the *Allergy & Asthma Associates of Michigan, P.C.*

METERED DOSE INHALERS

Metered dose inhalers (MOIs) are hand-held canisters or disks of aerosolized or dry powder medication. Activating the inhalers releases a measured amount of medication which is carried directly to the target site and not to other parts of the body. Using a MOI is an excellent way to take medication since there are few side effects. The medication is delivered in minute amounts at much lower doses than if it were taken orally or by injection. MOIs can be used by children as well as adults. The inhaled medication is fast-acting and generally begins to work within minutes.

There are four groups of MOIs available for treatment. The first group is the Beta2 Agonists (bronchodilators) which are inhaled orally and in acute situations work to relax the smooth muscles that surround the airways and decrease airway constriction. Examples of these medications are: Alupent, Ventolin, Maxair, Proventil, Albuterol, and the dry powder inhalers (DPIs) Serevent and Foradil. The second group is the oral corticosteroid inhalers. These medications work to prevent and reduce swelling inside the airways, and to decrease the amount of mucus in the lungs. Patients on these medications should rinse their mouths with water, and then spit after each use. Examples of these medications are Aerobid, Azmacort, Beclovent, Vanceril, Flovent, Qvar, and the dry powder inhalers Pulmicort and Asmanex. The third group of MOIs is the Cromolyn Sodium inhalers (Intal, Tilade). These medications are mast cell stabilizers. They work to prevent airway inflammation. Finally, the fourth group of oral MOIs is the anticholinergic inhalers (Atrovent, Spiriva). These medications cause bronchodilatation and decreased secretions through their inhibitory action on the vagus nerve. Combination inhalers such as Combivent and Advair are also available.

Proper inhaler technique is very important to obtain the maximum benefit from inhaled medications. Package insert directions should be followed very carefully especially for the dry powder inhalers as the mode of operation varies with the different products. The correct technique for oral aerosolized inhaler use is as follows:

1. Stand up.
2. Remove the cap and hold the inhaler upright.
3. Shake the inhaler thoroughly.
4. Tilt your head back slightly to allow a straight path for the inhaled medication.
5. Hold the inhaler one to two inches away from your mouth (three finger lengths) to allow the medicine to become aerosolized and pass into the air tubes as opposed to hitting the back of the throat.
6. Exhale as much air as possible.
7. Open your mouth widely.
8. Press down on the inhaler to release the medicine at the same time as you start to breathe in slowly.
9. Breathe in steadily and as deeply as possible for three to four seconds.
10. Hold your breath for six to ten seconds to allow the medication to reach deeply into your lungs.
11. If two puffs are prescribed, wait one to five minutes before repeating the above process a second time.
12. If bronchodilators and corticosteroids are both prescribed, use the bronchodilator first as it will open the airways and facilitate greater absorption of the corticosteroid.

The most common errors with MOIs, which reduce the effectiveness of the drug delivery, are improper activation, not waiting between inhalations, forgetting to shake the canister, not keeping the inhaler clean, and running

out of medication. It is imperative to know the number of doses in the inhaler, and then subtract each dose used, to know when a refill is needed. Also, be mindful of expiration dates on infrequently used inhalers.

:MDIs should be kept covered or in a clean plastic bag, when not being used, to prevent lint or dust from accumulating in the inhaler and potentially entering your lungs. Inhalers should be cleaned frequently following the package insert instructions that come with the inhaler.

The most common side effects of:MDIs are that they tend to trigger coughing spasms, and the steroid inhalers may cause yeast infections in the back of the throat if used improperly. Children, patients with coordination problems, and patients with particularly irritable airways often have problems using MDIs. In these situations, the Doctor may prescribe a spacer to use with your:MDI. A spacer is a device that attaches to an MDI. It holds the medicine in a holding chamber long enough for you to inhale it in one to three slow, deep breaths. The spacer makes it easy for you to use the medicine the correct way. It also enhances the penetration of the medication into the airways, prevents the medication from depositing in the back of the throat, reduces the chances of triggering a cough reflex, and lessens the bad taste in your mouth which some medications cause. Examples of spacers are products such as: Inspirease, Ace, Aerochamber, Inhalaid, Brethancer, Optihaler, Vortex, etc. Spacers can be purchased at most pharmacies and medical supply stores.

Metered dose inhalers have been in use for more than forty years. They have been proven safe and effective, when used properly. They are compact, convenient, and a great benefit to allergy and asthma sufferers.

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