

# Metered-Dose Inhalers: A Practice Session

Inhaled medications deliver medicine directly to inflamed, constricted and congested airways.

Contrary to popular belief, it's your correct inhalation, not the force of the propellant, that moves the medication past your mouth and throat into your airways.

Proper technique is important. You've got to inhale the spray quickly enough to prevent it from landing on your tongue or inside your cheek, yet slowly enough to get the medication deep into your lungs.

"It's like driving a car," explains Ben Francisco, PhD, PNP-BC, AE-C, director of Asthma Ready Communities and child health research assistant professor with the University of Missouri Health Systems. "If you leave here at 100 miles an hour, you're going to go off the road at the first major turn – you can't get around it. And if you take a very fast breath with your inhaler, the medication will slam into the wall of your airway at the first big curve, instead of travelling down into the lungs."

Check your inhalation technique. Read through the step-by-step instructions. Then try it yourself.

**1 Remove the mouthpiece cap and look at the tiny exit hole where the medication comes out of the canister.** It should be free of debris or white powder. If it's not, follow package instructions to thoroughly clean the inhaler.

**2 Shake the inhaler** to mix the crystalline powder medication with propellants and other inactive ingredients. Check your patient instruction sheet to see if your inhaler requires shaking (and how much), as a few brands (including Atrovent® HFA and QVAR®) are blended differently and don't need shaking.

**3 Prime (actuate) the inhaler to release one dose of medication into the air.** When the MDI is new or hasn't been used in a while, the ingredients may separate. Discarding the first few doses (priming) ensures the next one you inhale contains the labeled amount of medication. Check your patient instruction sheet for details on your inhaler.

**4 Stand or sit up straight and exhale fully.** This step ensures you can inhale medication slowly and deeply.

**5 Place inhaler mouthpiece into your mouth** (between your teeth) and close your lips tightly around it. If you use a holding chamber, insert the MDI mouthpiece into the flexible adaptor and put the chamber mouthpiece in your mouth. Hold the MDI upright, with the top pointing up to the sky.

Be sure to close your lips tightly around the inhaler or chamber mouthpiece and keep your tongue out of the way.

**6 Begin to inhale slowly, then activate the inhaler** a split second later. If you wait too long, you won't have enough breath left to inhale the medicine deep into your small airways.

**7 Continue inhaling slowly for 3-5 seconds,** until your lungs are full.

**8 Hold your breath for 10 seconds,** if possible. (You can take the inhaler out of your mouth.) When you hold your breath, you allow the tiny particles of medication to settle on the surface of your airways, rather than being pushed back out.

**9 Exhale slowly and repeat steps 2 through 9 for second dose.** If your asthma action plan says to take a second dose, check the patient instruction sheet that came with your inhaler to see how long to wait in between. Often this is about a minute, but some devices recommend a different amount of time.

**10 Replace the cap on your inhaler** and store it where it won't be exposed to moisture or extreme temperature changes. For best results, store and use the inhaler at normal room temperature – about 77 degrees F. If you need to take your inhaler out in very cold or very hot weather, keep it close to your body, not in your car or in a backpack. In cold temperatures, warm the inhaler with your hands before using it.