

Mandated Asthma Inhalers Reduce Global Warming

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Bottom Line at the Top: CFCs contribute to global warming so they can't be used in asthma inhalers any longer. The new HFA inhalers feel less forceful, but actually deliver more medication into the lungs. Asthmatics who use albuterol more than once a week should consider adding preventive medication.

At times asthmatics depend on inhaled albuterol, a medication that opens spastic airways, to breathe. For years the inhalers that delivered albuterol to the airways relied on chlorofluorocarbons (CFCs) as the propellant. **CFC's destroy ozone, contributing to global warming.**

As of January 1, 2009, all propellant-based inhalers prescribed and sold in the United States must use hydrofluoroalkane (HFA) propellants rather than CFCs. HFA-based inhalers have been marketed for more than a decade, but until recently many patients have continued to use the older and less expensive CFC-based versions. These were available as generics.

Other inhaled and nasal medications have also been switching to alternate delivery mechanisms. Some use HFA propulsion, while others use micronized particle sprays. This is why allergy and asthma sufferers have heard "They don't make this anymore" from pharmacists for the last 10 years as manufacturers try new devices. Things may settle down now.

Patients, expecting the cold, forceful feel of CFC inhalers, believe that they are receiving less medication and complain that HFA-propelled inhalers don't work as well. In fact, they deliver more – It just doesn't feel that way.

CFC-based inhalers forcefully spray cool medication . . . right onto the back of the throat. Most of a dose never reaches the lungs. **The newer inhalers produce a softer, warmer and less forceful spray that flows with a deep inhalation down into the lungs.** They have a slightly different taste and feel, but the active ingredient is the same – and **more ends up in the lungs.**

The mandated switch did not also mandate patient and physician education or follow-up health data. So when patients report a malfunctioning HFA inhaler, we don't have data from hospitalizations, medication use and urgent care and ER visits to verify or disprove patients' perceptions.

The silver lining of opportunity: Having to change albuterol prescriptions gives doctors an opportunity to review a patient's inhaler usage. We intend albuterol as a rescue medication to be used occasionally. Patients who use them more frequently are more likely to die, a rather unfortunate consequence that patients fail to consider as they puff away on them during an asthma attack.

Other medications, like inhaled steroids, cromolyn and leukotriene inhibitors, control and prevent asthma better when taken daily. They enable truly occasional albuterol use for rescue. And longer lives.

The HFA inhalers are **higher maintenance.** The pump needs to be primed initially and each time there has been a weeks-long hiatus between uses. The tip requires cleaning more often.

HFA-propelled albuterol inhalers available in the United States include *Proair HFA Inhalation Aerosol* (Teva), *Proventil HFA Inhalation Aerosol* (Schering-Plough), and *Ventolin HFA Inhalation Aerosol* (GlaxoSmithKline). *Xopenex HFA* (Sepracor), is an HFA formulation of levalbuterol.

Out-of-pocket **costs, deductibles, and copays are higher** with HFA inhalers. Manufacturers offer various programs for reducing the costs, such as coupons, rebates, and patient assistance programs.

More information about the inhaler switch can be found on the Web sites of the American Academy of Allergy, Asthma, and Immunology; the American College of Allergy, Asthma, and Immunology; and the Allergy and Asthma Network Mothers of Asthmatics.