

Breath of Fresh Air

Volume 8, No. 4

Winter 2005

Come to the Partners Asthma Center Gala: You Are Invited!

Partners Asthma Center is pleased to announce plans for its first annual Dinner-Dance and Silent Auction on Thursday evening, September 22, at the Boston Marriott Hotel in Newton. Please mark your calendar and plan to join us!

This gala event is a fundraising activity on behalf of Partners Asthma Center. For 15 years Partners Asthma Center has provided to our patients, free of charge, educational pamphlets, books, asthma action plan cards, and this quarterly newsletter, *Breath of Fresh Air*. We have made peak flow meters and spacers available at no charge. We have purchased state-of-the-art pulmonary function testing equipment for all of our practice sites, including at inner-city neighborhood health centers in Dorchester and Jamaica Plain. And each year we offer free asthma educational symposia open to the public (see page 6 of this issue).

All of these activities require monetary resources that do not come from billings for office visits. Some of our income comes from the support of pharmaceutical companies (such as GlaxoSmithKline, which provides an educational grant to support publication of this newsletter). We are hoping that you too will want to support the educational, outreach, and research activities of Partners Asthma Center by participating in our Dinner-Dance event. With your help we will be able to continue and expand our patient-focused initiatives, including some of the following: revised



The Boston Marriott Newton is located at 2345 Commonwealth Avenue in Newton, near the intersection of Route 95/128 and the Mass Pike.

editions of our books, Partners Asthma Center's *Guide to Asthma*, and the Spanish version, *Guía del Asma*; publication and distribution of this newsletter in Spanish (*Al Aire Libre*); a community-based asthma presence on neighborhood health vans; and a toll-free telephone asthma "hot line."

There is an even better reason to come to the Dinner-Dance – to have a good time. Join with your physician and with other persons with asthma and related diseases in a joyous evening of good food, good music, and good company. We will be honoring two Partners Asthma Center patients for their adventurous achievements, along with two co-recipients of the first Partners Asthma Center Asthma Service Award. Come to find out who is being honored.

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The cost of a ticket is \$150. Two tickets are \$275. We are planning on a limited number of "scholarship" tickets for those who wish to attend but cannot afford contribute to the Asthma Center at the present time. For those who wish to contribute but cannot attend, you can take an ad in our event brochure. For more information – or if you wish to receive an invitation – call Jackie at 617-732-7464 or go on-line at www.asthma.partners.org, and click on **Dinner-Dance**. We hope that you will be part of our asthma community and join us as we work to silence the asthma beast!

Children & Asthma in America Survey

In early 2004 a large-scale telephone survey was conducted to investigate asthma and asthma control among children aged 4–18 years. By calling approximately 41,000 households across the country, 801 children with current asthma were identified. The responses suggest that 9% of American children (approximately 7 million children) have asthma.

The same team conducted a parallel survey of children in Boston. They interviewed 101 children (or their parents/caregivers) with asthma and 300 children without asthma. The results indicate that we still have a long way to go to bring asthma under consistently good control.

In the past year, 19% of children with asthma in Boston had an attack requiring emergency room care and 32% had an acute care visit to their doctor.

- 16% of the children had symptoms at night (disturbing sleep) at least once a week.
- Half the children missed school or daycare in the past year as a result of their asthma (average = nearly 3 days missed).
- One quarter of the parents missed work in the past year due their child's asthma.

Clearly asthma has a big impact on the lives of many children in Boston and on their parents. Compared to children without asthma,

- Only 40% of children reported their health as excellent (vs. 66% of children without asthma).
- 17% of children avoided certain activities due to their condition (vs. 2% of children without asthma)
- 7% of children with asthma were hospitalized for asthma in the past year (vs. 2% of children without asthma hospitalized for any reason).

For a complete summary of the Children & Asthma in America survey, you can go to: www.asthmainamerica.com.

Children



Asthma in America



Breath of Fresh Air

Editor-in-chief

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News About Asthma

New Medication: Flovent-HFA

You may soon notice a subtle change about your Flovent inhaler. Flovent delivers the inhaled steroid medication, fluticasone, and it is available in three different strengths, varying according to how much of the medicine is released in each puff: 44 micrograms, 110 micrograms, and 220 micrograms. The traditional Flovent inhaler uses chlorofluorocarbons (CFCs) as the propellant to blast the aerosol spray from the canister. Beginning in March, 2005 the manufacturers of Flovent (GlaxoSmithKline) will begin to phase out production and distribution of their CFC-driven Flovent devices in favor of a new, CFC-free (and so ozone friendly) inhaler, called Flovent-HFA.

The new inhaler will look identical to the old Flovent. It will continue to be a metered-dose inhaler, substituting only the propellant hydrofluoroalkane (HFA) for chlorofluorocarbon (CFC). Because of this new propellant, the inhaler will feel slightly lighter, and the spray that is released may seem somewhat gentler and warmer. You may also notice a slightly different taste. Each canister will contain the same number of puffs (120) as before, and the medication — which is unchanged by the propellant — will work exactly the same.

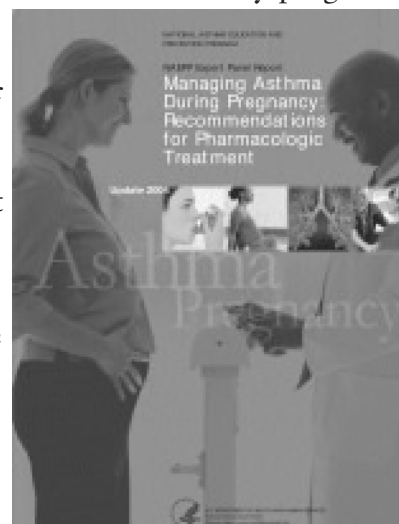
Flovent now joins the ranks of three other HFA-driven metered-dose inhalers currently available: albuterol as Ventolin-HFA, albuterol as Proventil-HFA, and beclomethasone (another inhaled steroid) as QVAR. The other approach to removing CFCs from our inhaled asthma medications is delivery from dry-powder inhalers, which do not require propellants. Currently available dry-powder devices are the long-acting bronchodilator, salmeterol (Serevent), in the Diskus; combination fluticasone and salmeterol (Advair) in the Diskus; the inhaled steroid, budesonide (Pulmicort), in the Turbuhaler; and the long-acting bronchodilator, formoterol (Foradil), in the Aerolizer.

New Recommendations: Treating Asthma During Pregnancy

Asthma is a common illness, including among many women in their childbearing years. It is no wonder that asthma is one of the most common serious medical conditions that complicate pregnancy. And of course pregnancy is a time when women tend to be most concerned about any medications that they are taking: will they have any effect on the course of my pregnancy and are they be safe for my developing baby?

The answers are not always easy for healthcare providers to determine. The reason for this uncertainty is partly the lack of scientific research in this area. You can imagine how hard it is to conduct clinical experiments in pregnant women, asking them to take one medication or another (or a placebo) without being able to reassure them of its absolute safety. Also, new medications are always being introduced for the treatment of asthma, with little experience in its effects during pregnancy. In many cases recommendations must rely heavily on evidence derived from animal experiments. If medicines can be given to animals in doses many times higher than humans would be exposed to, without causing harmful effects, they are probably safe for humans at usual treatment doses.

Recently, a panel of experts assembled to review all of the available information about the use of medications to treat asthma during pregnancy. They reviewed the medical literature, shared their clinical expertise, and made reasoned decisions based on their knowledge of the pharmacology and toxicology of these drugs. The recommendations of the Working Group of the National Asthma Education and Prevention Program



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have just been released in a document prepared for healthcare professionals called, “Managing Asthma During Pregnancy: Recommendations for Pharmacologic Treatment.” It is available online to you and to your physicians at: www.nhlbi.nih.gov/health/prof/lung/asthma/astpreg.htm.

Future Medications: New Drugs in the Pipeline

Over the next year or two it is likely that several new drugs will become available to treat asthma in the United States. All of these have been studied in experiments involving humans with asthma; some have already been made available for sale in other countries around the world.

Levalbuterol (Xopenex) by metered-dose inhaler. You may already be familiar with the inhaled bronchodilator, levalbuterol, a special formulation of albuterol that is said to have fewer side effects, particularly less stimulatory effect on the heart. It is a quick-acting bronchodilator available as a liquid for nebulization. In March the FDA gave approved the New Drug Application by Sepracor to develop levalbuterol in a metered-dose inhaler formulation. Plans are in the works to produce and distribute a Xopenex-HFA metered-dose inhaler.

A new inhaled steroid, ciclesonide (Alvesco). Among the most frustrating aspects of the inhaled steroids are their side effects in the mouth and throat, especially the yeast infection in the mouth called oral candidiasis or “thrush.” A new inhaled steroid has been developed that remains inactive until it reaches the lungs. Early experiments suggest that because the medication is only activated in the lungs, it has an associated incidence of thrush, sore throat, and hoarse voice that is no different than placebo. It is being tested for once-daily use in mild-to-moderate asthma employing an HFA-driven metered-dose inhaler.

Another new inhaled steroid, mometasone (Asmanex). Another pharmaceutical company has developed a powerful inhaled steroid to be administered via a dry-powder inhaler device, called a Twisthaler. The medication, mometasone, is already being used to treat allergic rhinitis in the form of the nasal steroid spray, Nasonex. It will likely be marketed as a once-daily inhaled steroid for use in children 12 years and older and in adults.

Arformoterol, a long-acting inhaled beta-agonist bronchodilator by nebulizer. Just as levalbuterol (Xopenex) captures a single form of the mixture of molecules contained in the traditional formulation of albuterol, so arformoterol isolates just one half of the two molecular structures in formoterol (Foradil). Formoterol (Foradil) is a long-acting bronchodilator, similar to salmeterol (Serevent). It is currently available only as a dry-powder inhaler. Arformoterol will be the first long-acting bronchodilator available as a solution for nebulization and its very long duration of action may make possible once-daily dosing.



*Mometasone
(Asmanex)
Twisthaler*

An alternative inhaled long-acting bronchodilator plus corticosteroid combination, Symbicort. As of the present, the Advair Diskus is the only single device that delivers with one breath both an inhaled steroid and a long-acting inhaled beta-agonist bronchodilator. The combination of the two medications has proven highly effective in moderate and severe persistent asthma. Another combination product, sold as a dry-powder inhaler, is Symbicort, which combines the long-acting inhaled bronchodilator, formoterol (Foradil), with the corticosteroid, budesonide (Pulmicort). Symbicort is currently available in Canada, Europe, and other parts of the world.

Roflumilast (Daxas), a new class of anti-asthma medication. For years pharmaceutical companies have been pursuing an oral medication that would have the benefits of theophylline without its side effects. The one closest to market is roflumilast (Daxas), a once-daily tablet that seems to act both as a bronchodilator and as an anti-inflammatory medicine. It works by selectively blocking the enzyme, phosphodiesterase 4, and so belongs to the category of drugs called PDE-4 inhibitors. It is not a corticosteroid.



Q & A: Would a room air purifier help my child's asthma?

Pure air. It must be good for asthma, right? We know that things in the air that we breathe can worsen asthma, whether they are irritants (like cigarette smoke and air pollution) or allergens (like cat dander and dust mites). What if we could remove those substances from the air that we breathe; would not our asthma improve?

The logical first choice would be to stop putting these substances into the air in the first place. It is far easier to keep cigarette smoke and allergens out of the air than it is to remove them once they are present ... at least in theory. Quitting smoking, finding another home for the pet cat, and keeping a dust-free home are certainly not easy tasks.

Some people with “central air” have found it possible to put special filters on their heating/air conditioning system. If you have a forced air heating system, you might try the inexpensive disposable filters (such as 3M Filtrete), attached to your furnace and changed 4 times a year.

But understandably you wish to target your child's bedroom or perhaps the family den. What about portable room air purifiers? They are of two major types: the high-efficiency particulate air (HEPA) filters and the ozone-generating air purifiers. The former uses a mechanical filter with very small pores; air is drawn through the filter and even microscopic particles are trapped on the filter. The filters need to be changed periodically. The latter include electrostatic precipitators and ionizers. The purpose of these latter is to generate ozone, which in high concentrations kills germs and causes particles to stick to surfaces in or near the air purifier. Neither of these devices removes gases or odors from the air; special charcoal-containing filters are needed for this purpose.

The ozone-generating air purifiers have become enormously popular, in part due to ubiquitous advertising campaigns. However, for people with asthma, there may be a downside – the ozone that they generate is an air pollutant itself and can be irritating to the airways and nasal passageways. The California Air Resources Board, a state governmental agency, had the following to say: “Independent studies by the U. S. Environmental Protection Agency, the Consumers Union, and others have shown that ozone-generating air cleaners do not effectively destroy microbes, remove odor sources, or reduce indoor pollutants enough to provide any health benefits. ... these devices are actually emitting ozone, and they are currently unregulated. Ozone is a harmful air pollutant that is the main component of ground-level smog. Breathing ozone can be harmful, especially for children, the elderly, and people with asthma, emphysema, bronchitis, or other respiratory diseases.”

Caveat emptor (let the buyer beware!).

On the other hand, the room air HEPA filters do not generate ozone, are safe, and may be effective. When asthma researchers sought to improve the indoor environments of children living in the inner city – as part of a large-scale Inner-City Asthma Study – they set up HEPA air purifier in the bedrooms of children who were exposed to passive smoking, sensitized and exposed to cat or dog allergens, or sensitized to mold. The children in whose home these interventions were made did significantly better than a control group, *when the HEPA filters were integrated into a comprehensive program for indoor air quality* (including cockroach extermination, allergy-proof dust mite covers for mattress, pillows, and box springs, and special vacuum cleaners).



*Extra large room HEPA air purifier
(approx. \$150).*

≡ **Breath of Fresh Air** ≡

Save the Date!

Partners Asthma Center's
Spring Asthma Symposium

“Modern Asthma Therapy: Are Our Medications Safe?”

**Tuesday, May 3, 2005
(World Asthma Day)**

6:00 – 8:00 p.m.
at The Ledge
One Brigham Circle
(opposite the entrance to the old Peter Bent Brigham Hospital
at 15 Francis Street)
4th Floor Conference Room

This program is open to the general public and free of charge.
Free parking is available at 15 Francis Street
(old Peter Bent Brigham Hospital entrance).



Breath of Fresh Air

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