

Breath of Fresh Air

Volume 8, No. 2

Summer 2004

Partners Asthma Center at 15

In July of 1989, allergists and pulmonary specialists (pulmonologists) at the Brigham and Women's Hospital began a collaboration that has endured and expanded over the ensuing 15 years. We defined the Mission of our Asthma Center at the outset, and have held to it ever since:

...to provide optimal medical care for persons with asthma and related diseases; to develop new knowledge about asthma and its management through state-of-the-art medical research; to train medical students and graduate physicians in the specialized skills of asthma care; and to promote improved understanding about asthma and related diseases through educational programs and materials for our patients, for other health care providers, and for the community.

We began as the "Longwood Medical Area Adult Asthma Center," but in 1995, after creation of the Partners HealthCare System, we "morphed" into Partners Asthma Center and expanded our collaboration to include allergists and pulmonologists at other Partners-affiliated hospitals: Massachusetts General Hospital, Faulkner Hospital, Newton-Wellesley Hospital, and North Shore Medical Center. We are now more than 50 participating physicians and nurses — with shared knowledge about asthma and philosophies of care — providing services at multiple different practice sites throughout the greater Boston community and North Shore.

Our asthma center is committed to medical research and to medical education for physicians and allied health care providers. Clinician-scientists at Partners Asthma Center

have conducted and published groundbreaking medical research. Our clinician-educators have presented symposia for physicians and other health care professionals. We recently established an Asthma Educators' Institute to help train nurses and other allied health providers to become effective asthma educators.

Sharing information about asthma

We continue to seek opportunities to communicate with our patients, sharing information about asthma that you can use in your daily lives. Our materials, available to you without charge, include this newsletter, *Breath of Fresh*

Air; a compilation of articles from the first five years of our newsletter, *The Best of Breath of Fresh Air: The First Five Years, 1995-2000*; our booklet, *Guide to Asthma* (available in Spanish as *Guía del Asma*); and most recently, our Internet website: www.asthma.partners.org.

Opportunities for sharing asthma information in person include our Annual Spring Asthma Symposium (on World Asthma Day) and Autumn Asthma Fair; and our Asthma Support Group.

As we begin our 16th year, we have many ambitious projects on the drawing board: outreach efforts to inner-city neighborhoods, including an Asthma Health Van; new publications, including more Partners Asthma Center Guide books and a Spanish-language asthma newsletter; and in the fall of 2005, the first annual Partners Asthma Center Dinner-Dance, to which you are invited! To support these and other programs, we plan a variety of fundraising initiatives on behalf of Partners Asthma Center; we will be asking your help.



Partners Asthma Center at 15: here's where we are and who we are —

Practice locations:

Boston:

Brigham and Women's Hospital (Center for Chest Diseases), 15 Francis St.
(617-732-6770)

Massachusetts General Hospital, Ambulatory Care Center, 15 Parkman St.
(617-726-3850 and 617-726-1721)

MassGeneral for Children, 15 Parkman St.
(617-726-8707)

Chestnut Hill:

Brigham and Women's Ambulatory Care Center, 850 Boylston St. (Rte. 9)
(617-732-9090)

Newton:

Newton-Wellesley Hospital,
2014 Washington St.
3 North – adult practice (617-243-6640)
6 South – pediatric practice (617-243-6585)

Jamaica Plain:

Faulkner Hospital (Suite 4990),
1153 Centre Street
(617-983-7224)

Saugus:

Medical Treatment Center of Saugus,
214 Broadway (Rte. 1)
(781-233-1450)

Salem:

Salem Hospital, 55 Highland Ave (Suite 104).
(978-745-4489)

Asthma and Allergy Affiliates,
114 R Highland Ave.
(978-745-3711)

North Shore Children's Hospital,
57 Highland Ave.
(978-354-2760)

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Breath of Fresh Air

Editor-in-chief

Christopher H. Fanta, M. D.

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Asthma Support Group

We invite you to join a Partners Asthma Center support group. The support group will meet once each month for 6 months. The purpose of the group is to give you the opportunity to meet with other people with asthma, to share your experiences, and to learn from one another. The group is facilitated by a social worker (with asthma), Ms. Donna Champagne. At each session a speaker from the staff of Partners Asthma Center will give a brief, informative talk on a topic to be decided by the group.

We ask that you join the support group with the intent of attending all 6 sessions. Our goal is to create a cohesive group that will have the opportunity to come together emotionally over the course of the group's 6-month existence. It is a model distinct from the occasional "drop-in" support group of recent years at our Asthma Center.

The dates and times of the group are flexible. As an initial proposal, we suggest evening sessions from 6:00 to 7:30 p.m. at one of the Partners Asthma Center clinical sites near or at Brigham and Women's Hospital.

If you are interested in participating, please call Elaine Carter at 617-732-7419.



News About Asthma

Once-daily bronchodilator

Tiotropium (*Spiriva*) is a new, long-acting inhaled bronchodilator recently approved for the treatment of COPD.

Chronic obstructive pulmonary disease, abbreviated COPD, is the term used to describe the cigarette smoking-related lung diseases, chronic bronchitis and emphysema. Like asthmatics, people with COPD have difficulty emptying the air from their lungs. Unlike in asthma, that difficulty is present more or less to the same extent, day in and day out. Most people with asthma have normal or near normal breathing capacity when their asthma is well-controlled and difficulty breathing only during periods of flare-ups or exacerbations. In COPD, particularly when it is severe, labored breathing is an everyday problem. Part of the strategy to treat COPD is use of bronchodilator medication, and it makes sense that a long-acting bronchodilator – one that can be taken once or twice a day – is particularly convenient.

Inhaled bronchodilators to treat COPD belong to one of two different families. The beta-agonist bronchodilators stimulate the bronchial muscles to relax; the anticholinergic bronchodilators inhibit stimulation of the bronchial muscles to contract. Salmeterol (*Serevent*) and formoterol (*Foradil*) are beta-agonist bronchodilators with a duration of action of 12 hours or more; when used twice-daily, they provide ‘round-the-clock bronchodilation. Now, with introduction of tiotropium (*Spiriva*) comes an anticholinergic bronchodilator that after a single inhalation works for at least 24 hours.

| | Beta-Agonist Bronchodilator | Anticholinergic Bronchodilator |
|----------------------------------|---|---------------------------------|
| Short-acting (4-6 hours) | Albuterol (<i>Proventil, Ventolin</i>) Metaproterenol (<i>Alupent</i>) Pirbuterol (<i>Maxair</i>) | Ipratropium (<i>Atrovent</i>) |
| | Combination albuterol and ipratropium (<i>Combivent</i>) | |
| Long-acting (12-24 hours) | Salmeterol (<i>Serevent</i>) Formoterol (<i>Foradil</i>) | Tiotropium (<i>Spiriva</i>) |

Tiotropium (*Spiriva*) is administered via a dry-powder inhaler, called the Handihaler. A capsule containing the medication in powder form is placed into a holding well. The capsule is then punctured, and the medication inhaled with the force of a breath in. Each capsule contains one dose. Tiotropium is prescribed to be taken as one dose once a day. Its major side effect is dry mouth; like ipratropium (*Atrovent*), it has very little heart-stimulating effect.



In asthma, anticholinergic bronchodilators are not as strong as beta agonists, and so they are not recommended for the treatment of asthma. Still, in those rare circumstances where for some reason beta-agonists bronchodilators can't be used by a person with asthma, it is good to have available an alternative, even if weaker, bronchodilator such as tiotropium (*Spiriva*).

New member of Partners Asthma Center

Dr. David Sloane has joined the Partners Asthma Center at Faulkner Hospital. Dr. Sloane is a specialist in Allergy and Clinical Immunology. He is a graduate of Harvard Medical School. He trained in Internal Medicine at the Beth Israel Deaconess Medical Center and in Allergy and Clinical Immunology at the combined Harvard Allergy Fellowship training program. He is a member of the Division of Rheumatology, Immunology, and Allergy at Brigham and Women's Hospital and an Instructor at Harvard Medical School. His special interests are asthma, allergic rhinitis, hives, and immune deficiencies.



He joins Drs. Christopher Fanta, Karen Lahive, and Robert Tarpy at the Partners Asthma Center at Faulkner Hospital (Suite 4990). For an appointment, call 617-983-7224.



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News about Asthma, from page 4

Awards to members of Partners Asthma Center

Senior members of our Partners Asthma Center have received very special recognition this year from national medical organizations:

Dr. K. Frank Austen was elected as an honored Foreign Member into the United Kingdom's Royal Society in recognition of "his insightful and focused studies, over more than 40 years, ... setting an outstanding paradigm of brilliant and effective biomedical research."

Dr. Jeffrey Drazen was elected to the prestigious Institute of Medicine, a national organization affiliated with the National Academy of Sciences and charged with providing science-based advice to the nation about biomedical science, medicine, and health.

Dr. Albert Sheffer was honored with the 2004 Distinguished Clinician Award of the American Academy of Allergy, Asthma, and Immunology.



Just Say NO

To a chemist, NO spells nitric oxide, the combination in one molecule of an atom of nitrogen and an atom of oxygen. What interest does someone with asthma have in this chemical, nitric oxide?

Our interest in NO begins with our desire to assess the activity of asthma. Do I have asthma; how active is my asthma; what would happen if I stopped my preventive asthma medications ... would my asthma flare up again? Remember that to a large extent, asthma is an inflammatory condition of the bronchial tubes. You (and your doctor) might want to know how intense that allergic inflammation is. Is there any way to judge the state of inflammation of asthmatic airways?

For the most part, we have relied on measurement of our lung function – peak flow or spirometry testing – to judge the severity of asthma. The more severe one's asthma — the more narrowed the bronchial tubes — then the slower the speed that air can be forced out of the lungs. But narrowing of the breathing tubes is complicated – part swelling of the walls of the tubes due to inflammation, part blockage of the tubes by mucus, and part constriction due to tightening of the muscles that surround the tubes. And we know that some asthmatic inflammation can be present in the airway walls even when they are not sufficiently swollen to cause narrowing; that is, inflammation can persist even when pulmonary function tests are normal.

Testing for asthmatic inflammation of the airways

It's not practical to look into the airways with cameras or to take samples (biopsies) from the bronchial walls. What we would like to have available is a quick, easy, and painless test that tells us something about the degree of asthmatic inflammation. And that's where our interest in nitric oxide comes in.

When asthmatic inflammation involves the walls of the bronchial tubes, the cells lining the airways release the chemical, nitric oxide. Nitric oxide is a colorless, odorless gas present in the air that we breathe in very tiny amounts, measured in parts per billion! If you have asthma, when you breathe out, the air that empties from your lungs carries in it more nitric oxide gas than if you are a person who doesn't have asthma. When your asthma flares up, the amount of nitric oxide released by the surface cells increases; when you are treated with anti-inflammatory medications, such as inhaled steroids or leukotriene modifiers, the amount of nitric oxide decreases.

Newly available chemical analyzers can detect and quantify the miniscule amounts of nitric oxide in the air that you exhale. Simply breathe at a steady rate into the collection tubing, and the nitric oxide concentration in your exhaled air is recorded. You may encounter a "Niox" analyzer at one of the Partners Asthma Center pulmonary testing sites. Its role in assessing asthma is still experimental. It remains to be determined whether the amount of exhaled NO can accurately characterize your asthma control or predict deterioration if you were to decrease your anti-inflammatory medications. The test meets our requirements for quick, easy, safe, and painless. With additional studies, we will come to learn more about its usefulness as a diagnostic and predictive tool. It constitutes part of our effort at Partners Asthma Center to provide you with state-of-the-art asthma care.



Niox nitric oxide analyzer (Aerocrine)



Partners Asthma Center at 15: Help Us Celebrate!

Since our founding in 1989, Partners Asthma Center has been committed to sharing medical information with our patients, to providing the tools of asthma care (such as peak flow meters and spacers) to those who can't afford them, and to reaching out to the underserved populations most in need of expert asthma care. We have created pamphlets about various aspects of asthma, published this quarterly asthma newsletter (*Breath of Fresh Air*), printed books about asthma (*Partners Asthma Center Guide to Asthma* and *Best of Breath of Fresh Air: The First Five Years: 1995-2000*), and held annual educational symposia ... all at no charge to our patients. Most recently, we made this vast amount of information available on-line at www.asthma.partners.org.

As we look to continue our mission, and to grow our services still more, we need your help. Please consider donating to the Partners Asthma Center. You can send your fully tax-deductible contribution to us:

Partners Asthma Center
PBB – Clinics 3
15 Francis St.
Boston, MA 02115.

Your contribution will help us help others breathe more freely. With your permission, we will acknowledge your contribution in the next issue of *Breath of Fresh Air*.

Thank you!



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