

Breath of Fresh Air

Volume 7, No. 2

Information, news and advice for improving asthma well-being

Spring 2002

“Stepping Down” Asthma Therapy

The severity of your asthma may vary over time, especially as environmental exposures change. When you move to a new city or to a new home, you may find that your asthma worsens. Perhaps you recently obtained a pet rabbit or bird; perhaps you have a new job in a dusty workplace. Or perhaps this is your allergy season; every year from April through June you experience increased asthmatic symptoms. It is reasonable to anticipate that as you are exposed to stimuli that worsen asthmatic inflammation and intensify the sensitivity of your airways, you will need — at least for a time — more intensive medical therapy to control your asthma.

You can foresee that the converse would also be true. Now that your allergy season has passed, now that you have moved out of that moldy basement apartment, now that your pet cat has gone to rest at a better place, you expect that your asthma symptoms will lessen. You find yourself entirely free of asthmatic symptoms, active, sleeping the night through, and almost never needing your rescue bronchodilator for quick relief of symptoms. You wonder whether you might be able to reduce some of your asthma medications.

Minimizing the dose of inhaled steroids

It is appropriate for you (and your health care provider) to reduce the intensity of your medical therapy when you are doing well and when circumstances have changed such that it is reasonable to think that less medication might continue to provide good control of less severe asthma. We encourage this “step-down” phase of your treatment: finding the lowest dose of medication(s) that will keep you breathing well. We particularly encourage finding the lowest appropriate dose of inhaled steroids. It is the inhaled steroids that have the greatest potential for some harmful effects *when used in high doses* for many months and years (such as glaucoma, cataracts, thinning of the bones, and easy bruising of the skin). If your asthma is under good control, it is appropriate to try to find — in collaboration with your doctor — the lowest dose of inhaled steroids that will maintain that good control. In mild asthma, once daily dosing of

the inhaled steroid may prove sufficient (any less than once-a-day has not been proven to work).

However, there are some caveats to consider when “stepping down” your asthma therapy. The obvious one is that your asthma control may get worse. You may start experiencing those same asthma symptoms to which you had happily said goodbye. You may start again coming to rely on your quick-acting bronchodilator inhaler whereas before you had come to enjoy rarely if ever needing it. No harm done, however. You can simply “step back up” to the treatment program that you were using before. We would expect your asthma promptly to come under good control once again on this more intensive regimen.

Using your peak flow meter to guide you

This “trial and error” approach assumes that when your breathing worsens, you begin to experience asthma symptoms and that you pay attention to those symptoms. For some people, these assumptions are not valid. You may be one who doesn’t have cough and wheezing until the bronchial tubes narrow quite severely. Or you may ignore warning signs of deteriorating breathing capacity as “a little tickle in my throat.” As a result, it may be wise to check your breathing — with your peak flow meter — when reducing your medications. A decreasing peak flow number will be a good indicator that your asthma is worsening. A stable peak flow number will give reassurance that the bronchial tubes are remaining wide open.

Some suggestions if you try it

What is the best method to reduce your controller medications? There is no one correct method, but we have the following suggestions:

- Make changes in collaboration with your doctor.
- The full impact of reducing your inhaled steroid dose may not be experienced for approximately 2 weeks after the change. It is a good idea to wait at least 2 weeks before proceeding with any further changes in your medications.



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Q & A: Inhaler Effectiveness

Q: *Won't My Inhalers Lose Their Effectiveness if I Use Them Every Day?*

A: The human body develops a tolerance for certain medications. After you have used them for a while, they seem to lose their strength. A good example would be the painkiller, morphine. With time the body's chemistry changes in response to the medication. You find that at the same dose the effects of the drug, including relief from pain, shortness of breath, and anxiety, begin to lessen. Your body is said to have developed a tolerance for the medication. Now, to achieve the same effects as you first experienced, you have to take a larger dose of the morphine...until you become tolerant to the larger dose.

It is true that to develop tolerance to a medication, you need to take it regularly, generally every day. On the other hand, it is not true that the body develops a tolerance to all medications taken on a daily basis. The body's chemistry does not always adjust in such a way that medications are degraded more quickly over time. For instance, the dose of your blood pressure lowering medication or your cholesterol lowering medication does not need to be routinely increased over time in response to regular use. Your body does not develop a tolerance to these medications, even after many years of use.

Lack of tolerance to asthma medications

For the most part, your asthma medications are like blood pressure lowering medicines in this regard, and not like narcotic painkillers. Taken every day, they do not lose their effectiveness. It is the asthma *controller* medications, used to prevent asthmatic symptoms and reduce your risk of an asthma attack, that you are most likely to take every day. These include the inhaled steroids, long-acting bronchodilators, and leukotriene blockers. The anti-inflammatory effects of the inhaled steroids, the bronchodilating effects of the long-acting bronchodilators, and the anti-leukotriene effects (both anti-inflammatory and bron-

chodilating) of the leukotriene blockers are the same after years of regular use as they were with the first dose. The body does not develop a tolerance to these medications.

One limited exception

A curious exception to this rule, and one not fully understood, is the observation that when taken regularly, bronchodilators lose their effectiveness in preventing exercise-induced symptoms of asthma. Many people with asthma use their quick-acting bronchodilator such as albuterol immediately before exercising (or going out in the cold air) in order to prevent chest tightness, cough, wheeze, or shortness of breath brought on by exercising (or cold air). The bronchodilator works very effectively when used this way, even if you exercise every day. However, it turns out that if you were to use your albuterol every day, 4 times a day, on a regular basis, its *preventive* benefits would lessen. The same is true for the long-acting inhaled bronchodilators, salmeterol (Serevent[®]) and formoterol (Foradil[®]). Taken regularly (as is generally recommended), they continue to work as bronchodilators without loss of effectiveness, but their ability to block exercise-induced symptoms decreases. Fortunately, many other medications can be used to prevent exercise-induced asthma symptoms besides the long-acting inhaled bronchodilators. If you take Serevent[®] or Foradil[®] (or Advair[®], which contains salmeterol in combination with an inhaled steroid) daily, you can still use your albuterol inhaler, or a cromolyn inhaler, or even the leukotriene blocker, montelukast (Singulair[®]) prior to exercise with good preventive effects.

Breath of Fresh Air

Editor-in-chief

Christopher H. Fanta, M. D.

Breath of Fresh Air is published quarterly by the Partners Asthma Center, 75 Francis Street, Boston, MA 02115. We gratefully acknowledge Glaxo Smith Kline for their generous contribution toward publication of this newsletter.

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Telephone: (617) 732-4353 Fax: (617) 732-7421

Internet: <http://www.asthma.partners.org>

E-mail: asthma@partners.org

News About Asthma

Updated Asthma Guidelines from the NIH

The National Asthma Education and Prevention Program is a health initiative of the National Institutes of Health, akin to its educational programs in high blood pressure and high cholesterol management. The asthma program was begun in 1990 to raise awareness about asthma as a potentially serious medical condition. As part of this nationwide endeavor, a panel of medical experts was assembled to draft guidelines for the optimal management of asthma in children and adults. Dr. Albert Sheffer of Partners Asthma Center chaired the first Expert Panel, which released its *Guidelines for the Diagnosis and Management of Asthma* in 1991. A revision of these *Guidelines* was released by the second Expert Panel in 1997.

This month the National Asthma Education and Prevention Program has released a summary of its *2002 Update of Selected Topics*. The full version has yet to be published. If you have access to the Internet, you can view the Quick Reference Summary of the *2002 Update* by going to www.nhlbi.nih.gov and clicking on **Clinical Guidelines on Asthma: Update 2002**.

Topics chosen for updating were those in which scientific research has provided new information or those for which there have been particular concerns among patients and healthcare providers. The updates are grouped into three categories: Medications, Monitoring, and Prevention. The new recommendations regarding medications for treating asthma are discussed here. Topics in Monitoring and Prevention will be reviewed in the next issue of *Breath of Fresh Air*.

- ***Use of inhaled steroids in children:***

The Expert Panel indicates that inhaled steroids are the most effective controller medication for children. They improve lung function, reduce symptoms, reduce the need for courses of oral steroids (prednisone or prednisolone), and lessen the risk of asthma attacks requiring urgent care. The group also indicated that long-term controller therapy was appropriate for infants and young children with repeated episodes of wheezing and disturbed sleep; with symptoms requiring quick-relief bronchodilators more than twice per week; or with severe asthma attacks less than 6 weeks apart.

At the same time, the report notes that new evidence indicates that low-to-medium doses of inhaled steroids are safe, even in children. In particular, it is unlikely that inhaled steroids in these doses have long-term effects on bone growth or a child's final height. Likewise, the risk of harmful effects of inhaled steroids on other organs, particularly the eyes, was deemed insignificant.

- ***Combination therapy***

Combining an anti-inflammatory medication with a long-acting bronchodilator has proven particularly effective for control of moderate or severe asthma. For persons with moderate asthma needing additional controller therapy beyond low-to-medium doses of inhaled steroids, it was felt that first-choice therapy is addition of a long-acting inhaled beta-agonist bronchodilator (salmeterol [Serevent[®]] or formoterol [Foradil[®]]). This combination was recommended for adults and children over age 5 years.

- ***Antibiotics for acute asthmatic attacks***

Respiratory infections often trigger severe asthma attacks. Most often, the cause of the respiratory infection is a virus, not a bacteria. As you know, antibiotics are ineffective against viral infections. As a result, the Expert Panel indicated that antibiotics are *not* recommended for routine treatment of severe asthma attacks — unless fever and discolored sputum or nasal drainage point to pneumonia or bacterial sinusitis in addition to the attack of asthma.



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Spotlight — Officer Edmond Bussiere

Edmond Bussiere is a full-time police officer with the Peperell Police Department. He has persistent asthma and has had asthma since early childhood. The road to becoming a police officer was not a smooth course, because of his asthma. For his entire life within memory, he has balanced the determination not to be restricted by his asthma with an awareness that his asthma imposes certain potential limitations to which he needs to remain attentive.



Officer Edmond Bussiere

His earliest memories of his asthma involve treatments in his doctor's office or the emergency department for asthmatic attacks. He and his parents were told by their pediatrician that he would likely "outgrow" his asthma. Outgrowing his asthma was always a goal of his childhood. Now, at age 34, he acknowledges, "I guess I'm going to have it my whole life."

He recalls that his parents were very supportive. At one point they even sent to Canada for a new medication not yet available in the U.S. He was allowed to play sports, and depending on the activity of his asthma, some days went better than others. "It [asthma] was a major part of my life growing up." One example: most children think nothing of sleeping over at their friends' houses. "I tried one night [sleeping at the home of friend with a dog], and ended up waking up in the middle of the night with difficult breathing and walked home to my folks' house because I couldn't sleep [being so] short of breath."

Since early in high school, his career goal was police work. He intended to enlist in military service in preparation for a career as a police officer. In high school he participated in the Reserve Officer Training Corps (ROTC). During his junior year, at a "career day" at the high school, he learned from all of the military recruiters, "if I brought up that I had asthma, they...wouldn't touch me. I was shocked; I was disappointed." At the time it felt very much unfair. Now he feels proud of what he has accomplished: "everything I did, I had to work a little extra hard for."

Finding new paths to the same end

He never gave up on his career goals, but redirected his path to get there. "I felt that I had to prove that I could do the job." He studied criminal justice in college. When he applied for work as a police officer, his ability was often met with skepticism, because of his asthma. They would doubt that he could pass the stressful physical testing prior to employment. "There are always people out there who have their reservations and their doubts about [people with] asthma. When they hear about asthma, they think about people who can't walk down the street without getting short of breath."

Instead, he got his first job as an emergency medical technician. There he met his wife, Dottie, now a nurse, who worked at that time as an EMT. He recalls that as an EMT he was at times called to rescue persons near death due to asthma. Often the victims were poor and could not afford regular medicines for their asthma. The experience made him feel fortunate for having received effective medications and regular medical care while growing up.

He worked full time as an EMT and part time as a police officer in Tyngsboro. Then, for 18 weeks, 5 days a week from 7 a.m. to 4 p.m., he attended the Massachusetts Police Academy. Every day he did physical training plus academics. Twice a week he ran 5 miles, other days 2 miles — in the middle of the summer. His success there convinced the Police Chief in Peperell of his ability.

Major responsibilities taken seriously

Officer Bussier takes the responsibility of his work very seriously. "At a moment's notice, I have to react. If I can't react, someone could get hurt or killed. I have to know my limitations. I've been working [as a police officer] 5 years now full time. On one or two occasions I have had to take breathing treatments from our local ambulance provider. I know what I can and can't do and try to take precautions and not have it affect me." As one precaution, he carries with him at work a small medical pouch with his inhalers and bronchodilator nebulizer solution. "I know asthma is part of my life, but I won't be handicapped by it."

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“Stepping Down” Your Therapy, from page 1

- If you choose to reduce your inhaled steroid to once-daily dosing, it matters little whether you take it in the morning or in the evening. The best time of day to take it is the time that you will most likely remember every day.
- The long-acting inhaled bronchodilators exert their effect for approximately twelve hours after each dose. If you are eager to reduce all of your controller medications to once-daily dosing, you can try taking the long-acting bronchodilator only once a day. Use it in the morning if your asthma symptoms occur exclusively during the day; use it in the evening if your asthma symptoms occur exclusively at night.
- Stopping suddenly any of your controller medications may not be the best approach, but it will not cause medication withdrawal symptoms. A possible exception is very high doses of inhaled steroids — more than 2000 micrograms per day — in which case a gradual reduction is safest.



News About Asthma, from page 3

NIH Update of Clinical Guidelines on Asthma, continued

• **What Is Meant by “Low-to-Medium Doses of Inhaled Steroids”?**

Steroid Inhaler	No. of inhalations/day Adults	No. of inhalations/day Children
Beclomethasone – CFC <i>Vanceril, Beclovent</i> <i>Vanceril DS</i>	Up to 20 Up to 10	Up to 16 Up to 8
Beclomethasone – HFA QVAR 40 QVAR 80	Up to 12 Up to 6	Up to 8 Up to 4
Budesonide – Dry Powder <i>Pulmicort Turbuhaler</i>	Up to 6	Up to 4
Budesonide by Nebulizer <i>Pulmicort Respules 250</i> <i>Pulmicort Respules 500</i>		Up to 4 Up to 2
Flunisolide <i>Aerobid, Aerobid-M</i>	Up to 8	Up to 5
Fluticasone – Metered-Dose <i>Flovent 44</i> <i>Flovent 110</i> <i>Flovent 220</i>	Up to 15 Up to 6 Up to 3	Up to 10 Up to 4 Up to 2
Fluticasone – Dry Powder <i>Flovent Rotadisk 50</i> <i>Flovent Rotadisk 100</i> <i>Flovent Rotadisk 250</i>	Up to 12 Up to 6 Up to 2	Up to 8 Up to 4 1
Fluticasone – Dry Powder <i>Advair Diskus 100/50</i> <i>Advair Diskus 250/50</i> <i>Advair Diskus 500/50</i>	2 2 1	2 1 –
Triamcinolone <i>Azmacort</i>	Up to 20	Up to 12

Asthma Support Group

The Partners Asthma Center Support Group has suspended its meetings for the summer months of July and August. We will resume meeting this Fall on the **last Tuesday of every month from 7:00–8:30 p.m.** Each session will begin with a brief informative presentation followed by an open discussion and sharing of ideas and experiences about asthma. Please note the locations for the upcoming Support Group sessions. For more information, call Elaine Carter at 617-732-7419.

Date:	Location	Topic
September 24:	Brigham and Women's Hospital <i>Tower 4A</i> <i>75 Francis Street</i> <i>Boston</i>	<i>Aspirin and My Asthma: Do I Need to be Concerned?</i>
October 29:	Faulkner Hospital <i>Suite 4930</i> <i>1153 Centre Street</i> <i>Jamaica Plain</i>	<i>Creating an Asthma Action Plan</i>
November 26:	Brigham and Women's Hospital <i>Tower 4A</i> <i>75 Francis Street</i> <i>Boston</i>	<i>New Asthma Therapies: What's Available and What's Coming?</i>
December 31:	No session.	



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Partners Asthma Center
Brigham and Women's Hospital
Massachusetts General Hospital
Faulkner Hospital
Newton-Wellesley Hospital
North Shore Medical Center
75 Francis Street
Boston, MA 02115
1-800-9PARTNERS

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