

New Ways to Formulate Inhaled Medicines

Philip S. Norman, M.D.

A sthmatics who use inhaled bronchodilators or steroids will be getting a change in their medications whether they like it or not. However, many will find the new inhalers helpful, if anything, according to recent findings. The change stems from an agreement made between 100 nations in Montreal in 1987 to phase out all use of chlorofluorocarbons (CFCs), popularly known as Freons, so that there will be less depletion of the ozone layer. This agreement has already led to a changeover in automobile and building air conditioning to refrigerants that will be kinder to the ozone layer.

CFC formulations in pressurized devices have been a mainstay for both nasal and inhaled asthma prescriptions because they provide a fine spray of a precisely measured dose of medication, hence the name, metered dose inhalers (MDIs). The small amount of CFC needed for medicinal use represents little threat to the ozone layer, and pharmaceutical companies and their regulators have been allowed a comparatively long time to develop satisfactory substitutes. However, time ran out on this exemption in 1997, and it must be renewed annually on a case by case basis. Change is, therefore, inevitable and will come soon.

With nasal medications, non-CFC sprays have been available for many years and won wide acceptance. These metered dose mechanical sprays of liquids containing solutions or suspensions of medicines are proved effective. They are already prescribed in greater quantities than the CFC sprays; therefore, the loss of CFCs poses little threat.

Holiday Surprises



Anne Muñoz-Furlong

Rin our holiday festivities, whether it's at school, work, or home. For some people it is the only time of the year that they look forward to baking and cooking special treats to share with others.

Take advantage of this and share your favorite allergyfree recipes. Most people are leery of eating something made without milk or eggs. They expect it to be tasteless or dry. Surprise them! Sharing your recipes with friends will keep you in their thoughts throughout the year as they tell others that allergy-free can be tasty too!

As you head into the holiday season, there are a few recipe surprises and food ingredients that you should be aware of.

Recipe Surprises

Pesto sauce with peanuts, turkey fried rice made with peanut butter, the secret ingredient in the breading used for a fish dish was walnuts, waffle cut french fries coated with wheat, walnuts in cranberry salad, are just a few of the creative recipe surprises we've found.

Packaged Foods

Remember to read the ingredient statement for all commercially prepared foods all the time. Products are changing rapidly, often there is no warning of the ingredient change on the front of the package.

Many cookies, cakes, candies, and even some breakfast cereals now list peanut traces, peanut flour, or nut meal. These products should be avoided by anyone with an allergy to peanuts, even if peanuts are listed at the end of the ingredient statement. Call the manufacturer and ask what the source of the nut meal is before eating the food.

Watch the caponata, a traditional sweet-and-sour Sicilian relish. It can include pine nuts and anchovies. Imitation crab meat can include wheat, eggs, and fish.

Nut butters, such as almond or cashew, are often processed

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WE WANT YOU FOR POSTER CHILD!

Do you like to educate your friends and teachers about your asthma/allergies? Do you want to help get the word out on what it's like to have asthma/allergies and be a healthy, happy kid?

If this describes YOU, then we want you for the 1999 Poster Child!

The Poster Child and a parent/guardian travel throughout the Maryland and D.C. area, representing Maryland and D.C. as a Goodwill Ambassador for a period of one year. The Poster Child will share his/her personal perspective on life with asthma and allergies. A good knowledge of asthma and allergies is a must!

AAFA-Maryland is currently seeking candidates for the 1999 Poster Child. Eligible children will be between the ages of 10-14, living with asthma/allergies, and a resident of Maryland or the District of Columbia. Candidates must complete an application and submit it **with a photograph** to the Chapter by the March 5, 1999 deadline. Applications are available by calling the office at 410-321-4710 in metro Baltimore, or at 800-727-9333. You can also print a copy of the application from our website at www.aafa-md.org...so enter today!



COLLEGE SCHOLARSHIPS

AAFA-MD is currently seeking High School Seniors graduating in 1999 to apply for College Scholarships. Each candidate must meet the following requirements:

> Resident of Maryland or Washington, D.C. Completed Application with Reference Letters 500 Word Essay G.P.A. of 3.0 or Better High School and/or College Transcripts Physician Statement Proof of Asthma or Allergy Condition Deadline Date for Application Receipt: 3/29/99

For more details contact AAFA-MD at (410) 321-4710.

CAMP SCHOLARSHIP

AAFA-MD believes that all children with special health needs should be given an opportunity to enjoy a summer camp experience. Children are taught to confront personal challenges, to make their own decisions and to assume more responsibility for themselves and their health condition. AAFA-MD realizes that some children



may not experience camp on the basis of the family's inability to pay. That's why AAFA-MD will be offering Camp Scholarship to these families, who are residents of the State of Maryland or Washington, D.C. Contact AAFA-Maryland at (410) 321-4710 for an application.

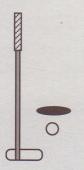


HALLOWEEN FUN!

(Above) All the young ghosts and goblins were out for the Maryland Food Allergy and Asthma Network's First Halloween party. The party was held on Halloween day at the Florence Bain Senior Center in Columbia. Thirty-six children with food allergy and/or asthma and their family members enjoyed games, crafts and each other's company. Entertainment was provided by magician "Magic Bob." He had everyone howling with laughter! A great time was had by all.

This event was supported in part by DeyPharma Labs, manufacturer of the "EpiPen" and "EpiPenJr." Thanks to AAFA-Maryland Chapter and the many volunteers who made this event a terrific success.

The First Annual Asthma & Allergy Golf Classic



Tam happy to announce that on May 24, 1999, the Chapter will be hosting its **First Annual Asthma & Allergy Golf Classic**. This tournament will take place at the prestigious "Hayfields Country Club" in Hunt Valley, Maryland, and will be the first ever to be played at this course.

Through this event, we want to raise awareness and give support to the Foundation. Our goal is to help raise money for the "BreathMobile," our current major Inner City Initiative for Baltimore City school children. This mobile asthma clinic will provide on-going healthcare,

management, and education to children and families to ensure successful outcomes towards good health.

With the help of the Golf Planning Committee, which includes Simpson Gardyn, Marty Yospa, Marsha Trant, Cynthia Wyatt, Heather Kratz, and Maryanne Ellis, much progress has been made in getting this tournament off to a great start. Now is the time to get involved.

Please join us in helping to support the BreathMobile along with Education, Research, and Patient Assistance.

LET'S PLAY GOLF!

Please contact Heather Kratz, Fundraising Manager, for more information. Call 410-321-4710.

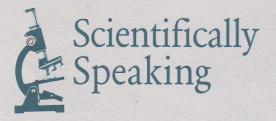
A TAX WRITE OFF THIS SIZE IS NOTHING TO SNEEZE AT.

Donate your car, truck or boat to the Asthma & Allergy Foundation of America, Maryland Chapter (AAFA-MD) and help the Foundation provide program ser-



vices, patient assistance and research for those with asthma and allergic diseases. Your car doesn't even have to run -- WE'LL TOW IT -- FREE! No waiting by the phone, NO HASSLES - AND WE WILL PROVIDE A TAX RECEIPT.

AAFA-MD Chester Building, Suite 321 8600 LaSalle Road Towson, MD 21286-2002 Local (410) 321-4710, Outside Balto. Area 800-727-9333 www.aafa-md.org



In each issue of BreathingEasier, the SCIENTIFICALLY SPEAK-ING column will offer readers presentations written by selected columnists who are knowledgeable in the fields of asthma and allergic diseases in order to provide ongoing information to those suffering from these diseases.

A New Treatment for Asthma: Soluble Interleukin-4 Receptor

LeLeng To, Ph.D.

new therapy that has undergone phase I and II clinical testing is the use of soluble interleukin-4 receptor (IL-4R) for treating asthma. Interleukin-4 is a cell- tocell signaling protein that plays a crucial role in asthma and in allergic inflammation. In patients with allergic inflammation, including allergic asthma, there is an excessive production of IgE. IL-4 increases the circulating level of IgE antibodies and the expression of IgE receptors on mast cells. IL-4 accomplishes this by stimulating the proliferation of helper cells that, in turn, stimulate the reproduction of antibody secreting cells. It also stimulates cells to switch to antibodies of the IgE type. Furthermore, IL-4 causes mast cells (which contain histamine) to reproduce and increase their expression of high affinity IgE receptors. IgE bring about their inflammatory effects because binding of IgE to their receptors on the

surface of mast cells and basophils primes such cells for responses to specific allergens. When allergens cross-link IgE bound to mast cells, these cells secrete histamine and leukotrienes. Histamine causes small blood vessels to be leaky. Depending on the location of histamine release. hives can form and mucous passages can clog. Leukotrienes are inflammation mediators that cause muscle contraction and mucous secretion in airways constricting them. They also recruit eosinophils to the affected sites, further augmenting the inflammatory response. Leukotrienes are responsible for the late phase responses seen in allergic reactions and in asthmatic patients. Furthermore, asthma patients often have heightened nitric oxide levels in exhaled air. The increased level of nitric oxides is an indication of increased inflammation. IL-4 also increases the expression of adhesion molecules on the surface of cells lining small blood vessels. The increased stickiness selectively traps circulating eosinophils causing them to exit circulation into the affected sites. When the selective egress occurs in the airways, asthma results.

IL-4 brings about these effects through its specific cell surface receptor, IL-4R. In addition to cell surface IL-4R, the receptor also occurs in soluble form in human serum. This soluble form may be a normal mechanism to down regulate the activity of IL-4. Immunex Corporation has developed Luforkincept (also known as Nuvance) which is the soluble extracellular portion of the human IL-4R. A mammalian expression system was genetically engineered to produce IL-4R without the region that attaches it to cell surfaces. According to Dr. Jan Agosti, Director of Clinical Development at Immunex Corporation and faculty member of the University of Washington, soluble IL-4R is safe, well-tolerated, and has a half-life of about 1 week. In a double-blind controlled study, 25 patients with moderate asthma and requiring inhaled steroids were randomly assigned to receive a single nebulized dose of 1500 ug IL-4R, 500 ug IL-4R, or placebo. The researcher observed no IL-4R related toxicity. Treatment with IL-4R resulted in significantly improved FEV1 (forced expiratory volume in 1 second) on Day 4 compared to placebo. On Days 2 and 4, IL-4R treated patients also had significant improvements in rapid air flow. Despite abrupt withdrawal from inhaled steroids, patients receiving 1500 ug IL-4R had stable asthma symptom scores, required significantly less bronchodilator rescue, and had decreased exhaled nitric oxides. This was not true for patients receiving 500 ug IL-4R or placebo. Researchers and clinicians await the results of phase III clinical trials to determine IL-4R's promise as a new treatment for asthma and allergies.

Dr. Agosti's talk was part of a symposium on New Therapeutic Approaches to the Treatment of Asthma, presented jointly, on October 9, 1998, by the Johns Hopkins Asthma and Allergy Center and the Asthma and Allergy Foundation of America, Maryland Chapter. The first two talks focused on leukotriene modifiers and on anti-IgE therapy. These topics were discussed in previous issues of *BreathingEasier*. Future issues of *BreathingEasier* will discuss other research on new therapies to treat asthma and allergies.



Including the Asthma & Allergy Foundation, Maryland Chapter, in your Will is a promise for posterity. Your planned gift will help future generations breathe easier.

AAFA Maryland Chapter Chester Building, Ste. 321 8600 LaSalle Road Towson, Maryland 21286

1-800-727-9333

Inhaled Medicines

Continued from front page

Inhaled asthma medications are different. Penetration of these drugs to the small airways where the swelling and bronchospasm cause the most trouble depends on creating a mist of fine droplets or particles five microns or less in diameter (no more than half the size of a single red blood cell). Any larger, the particle fails to travel well around the twists and turns of the airways and simply lands in the mouth. Liquid mechanical sprays or aerosol generators do not make very many such small droplets.

Drug manufacturers have approached the problem of making fine particle measured dose of medication without CFCs in two ways. They have either used finely divided powders or substituted a non-CFC propellant. Now that data has come in on these methods, it appears that either of them may be better for patients than CFC-MDIs.

Dry powders were pioneered in Europe and have been available for some time there. The devices contain a series of tiny blister packets of medication. They are armed by pushing a lever which moves an unused blister into place and opens it. The patient then exhales and holds, puts the mouthpiece between the lips and inhales, drawing in the powder. The advantage is that one does not have to coordinate firing an aerosol with an inhalation. If the inhalation is adequate, the dose reaches deep in the lung. Such gadgets are now available for the long-acting

bronchodilator salmeterol (Serevent® Diskus®3) and the steroids fluticasone (Flovent® Rotadisk®) and budesonide (Pulmicort Turbuhaler®). Each of these devices is a little larger than the familiar MDI but still small enough to carry in the pocket or purse. As they are used no more than twice a day, many people would not have to carry them.

A propellant called hydrofluoroalkane-134a (HFA) for aerosols has been developed that does not deplete the ozone layer. An MDI containing HFA looks like and is used like a CFC-MDI. Inhalers containing the short acting bronchodilator albuterol in HFA have been sold in the U.S. for over a year (Proventil® HFA). With steroid drugs, HFA dissolves the drug rather than carrying it as a fine suspension. Data shows that the resulting aerosol is finer than that generated by a CFC. For inhalation, finer is better and studies show deeper penetration and more even distribution of the particles from HFA aerosols. This translates into more drug in the lung and less elsewhere reducing even further the low likelihood of systemic steroid side effects. An HFA preparation of the familiar steroid beclamethasone dipropionate is slated to appear in the U.S. soon. It will be called QVAR®.

None of the new steroid preparations entirely prevents some of the drug staying in the mouth while on its way to the lungs. It will continue to be important to rinse the mouth with water and spit after inhaling any steroid.

Holiday Surprises

Continued from front page

on shared equipment with peanut butter. There may be enough residual from the cross contact to cause a reaction, particularly for very sensitive individuals.

Tell your host about your allergy when asking about secret ingredients. If the information doesn't appear to be complete or accurate remember, "When in doubt, do without!"

Happy holiday to you and your family!

The following are free of milk, soy, eggs, peanuts and tree nuts:

GINGERBREAD COFFEE CAKE

1/4 cup sugar1/2 cup water1/4 cup light molasses

1/4 cup milk-free, soy-free margarine, melted

2 T. honey

- 1 1/2 T. water, 1 1/2 T. oil, 1 tsp. baking powder, mixed together
- 1 cup flour
- 1 tsp. ground ginger
- 1 tsp. ground cinnamon
- 3/4 tsp. baking soda
- 1/4 tsp. salt
- 1/4 tsp. ground cloves

Preheat oven to 350 degrees. Grease 8-inch-square baking pan and set aside. In large bowl combine sugar, water, molasses, margarine, honey, and water, oil, and baking powder mixture. Stir until smooth. Add flour, ginger, cinnamon, baking soda, salt, and cloves. Mix well. Pour batter into prepared pan. Bake for 25 minutes or until cake tester inserted in center comes out clean. While warm, spread topping all over.

GINGERBREAD TOPPING M, E, W, P, S, N

3 T. dark brown sugar 1/4 tsp. ground ginger 1/2 tsp. ground cinnamon 1 T. milk-free, soy-free margarine, melted

In a small bowl, combine all ingredients and stir until well blended. Spread over gingerbread.

CARDAMOM COOKIES

- 3/4 cup flour
- 1/2 cup sugar
- 1/2 tsp. ground cardamom

1/2 tsp. ground cinnamon 1/4 tsp. baking soda

3 T. milk-free, soy-free margarine, melted

1 1/2 T. water, 1 1/2 T. oil, 1 tsp. baking powder, mixed together

Preheat oven to 350 degrees. Grease cookie sheets and set aside. In large bowl combine flour, sugar, cardamom, cinnamon, and baking soda. Stir together well. Add margarine, water, oil, and baking powder mixture. Stir until well blended. Drop by rounded teaspoonfuls onto prepared cookie sheets. Bake 12 minutes. Allow to cool completely on wire racks before serving.

Note: We like to use Sweet-Unsalted Premium Mazola Margarine®. (The soy lecithin is considered safe for those with soy allergy.) Be sure to always check the ingredient statement.

Asthma and Allergy Foundation of America -Maryland Chapter

Chester Building, Suite 321 8600 LaSalle Road Towson, MD 21286-2002 Phone: (410) 321-4710 FAX: (410) 321-0137 Website: www.aafa-md.org

Editor: Philip S. Norman, M.D.

Executive Director: Maryanne Ellis

Editorial Board: Philip S. Norman, M.D. Linda Borschuk Maryanne Ellis Charles Mihalik, Pharm.E LeLeng To, Ph.D. Cynthia Wyatt

Newsletter Production: AAFA-Maryland Chapter, Towson, MD

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The DEAR DOCTOR column offers readers the opportunity to submit questions about asthma and other allergic diseases for possible answers in BreathingEasier.

Questions are answered by pharmacist, Charles Mihalik, Pharm.D.

My nine year old daughter's doctor recently gave her a prescription for an inhaler containing a steroid. What are the side effects? How can I tell if the steroid is helping her asthma?

Early treatment with an inhaled glucocorticoid (a special type of steroid) gives your daughter the ability to control her asthma effectively and safely. Safety is of great concern to your doctor when choosing a medication for your daughter. He or she considers the benefits and risks of each medication along with the special needs of your daughter. Her age, weight, level of understanding, and asthma severity are especially important.

When asthma is persistent, causing symptoms more than three times a week, your doctor will often prescribe a controller medication. Doctors recognize that inhaled glucocorticoids are the most effective medication available to control asthma. Unlike reliever medications such as albuterol, controller medications lessen inflammation -- the cause of asthma. When inhaled, especially with a spacer device, most all of the medication goes directly to the inflamed airways, leaving little to cause unwanted side-effects. Nevertheless, as with any medication, side-effects are always possible.

I have listed the most noteworthy side effects of glucocorticoid inhalers below. Carefully review the information. Your doctor or pharmacist will be glad to address other concerns you may have. Some "side effects" may not be side effects at all. They may be signs of worsening asthma. Fever, cough, and changes in color or amount of mucous may be signs of an infection. Infections often cause an asthma flare. Do not stop or change how much medication you are using without first consulting your doctor.

Being well-informed about the side effects of your medication is important. Knowing how you benefit from taking the medication is equally important. Scientists and doctors are learning many new and important benefits of early treatment of asthma with inhaled glucocorticoids. They now know that early, regular use improves how well your lungs work and reduces hospital admissions due to asthma. Additionally, not treating asthma early and effectively with controllers may lead to asthma that may not respond to reliever medications. Other known benefits include fewer symptoms, less need for reliever medication, fewer night time awakenings, and fewer visits to the emergency room.

You should also know how to measure the effect of your controller medicine. The best way to do this is to use your peak flow meter daily each morning. Record the number in your diary and compare it with previous readings. You should start to see better numbers within a week or two of starting your controller medication. You may also notice that you need your reliever less and you can more easily participate in sports and other activities. You may notice fewer symptoms, but not everyone does. Many people with asthma do not realize their asthma is worsening until moments before a serious attack or flare. Peak flow numbers usually begin to decline before an attack begins. This is another good reason to use a peak flow meter daily. Follow your asthma action plan. Your doctor may want you to call if your number is below eighty percent of your personal best.

Do not overlook the importance of using your inhaler correctly. Good technique lowers your chance of developing side effects. Newer dry-powder inhalers are inhaled quickly, while metered-dose inhalers must be inhaled slowly. Hold your breath for five to ten seconds before exhaling and rinse your mouth after each use. DO NOT use a spacer with dry-powder inhalers such as Pulmicort Turbuhaler® or Flovent Diskus®. Conversely, a spacer is often helpful with a metered-dose inhaler. Review your technique with your pharmacist or doctor regularly.

POSSIBLE SIDE EFFECT	WHAT ABOUT IT?	TELL YOUR DOCTOR OR PHARMACIST IF YOU NOTICE:	
Dysphonia	This is difficulty or pain while speaking. Occurs somewhat commonly, and may worsen with increasing amounts of medication.	pain or difficulty speaking after use.	
Oral Thrush (mouth fungus)	Occasional but most common. <u>Occurrence is</u> greatly reduced by mouth rinsing, correct inhaler use, and using a spacer.	a white film or painless, white, raised patches in your mouth or throat, throat soreness, or dysphonia.	
Cough	Using a spacer and inhaling slowly may help.	persistent cough after use.	
Growth Problems	Occur rarely and only at high doses in severe asthma. The rate of growth may be slowed, but final adult height may be unchanged. <u>Severe</u> asthma may slow growth regardless of treatment.	Your doctor will do regular growth measurements when necessary.	
Cataracts	Possible, but notably less than oral steroids. More common in older people. Some people may be at higher risk, but more research is needed.	blurred vision or difficulty in bright light or night driving. Your doctor may recommend regular eye exams.	
Skin Changes	Occurs uncommonly and only at higher does in older people.	you bruise easier or more often than usual.	
Immune System Suppression	May occur, but only at high doses for long periods of time. The body's cells that afford protection against infection are the same as those that cause inflammation. <u>Viral and bacterial infections are</u> <u>common triggers of asthma and may not be related</u> <u>to medication</u> .	any sign of infection, including fever or changes in mucous color to yellow or green.	



MD FOOD ALLERGY & ASTHMA NETWORK

The Baltimore County Satellite Group of the Maryland Food Allergy & Asthma Network will hold its first meeting on January 14, 1999. The meeting will feature Robert A. Wood, M.D., renowned pediatric allergist who will be discussing "Hidden Food Allergies." The meeting will take place at the Greater Baltimore Medical Center, Physicians Building East, from 7:00 - 9:00 p.m.

For more information, call 410-321-4710.

Santa Breathes Easy by Martha N. Dewey



'Twas the night before Christmas and though it was freezing, There wasn't a child in the house who was wheezing. The inhalers were rinsed and cleaned with great care, The filters turned on, purifying the air.

The children were nestled in their dust-free beds, Slipping off the plastic pillow cases under their heads. With a sigh of contentment and not hearing a peep, I settled down for some uninterrupted sleep.

Then a dry, hacking cough I heard from the roof Amid mumblings and grumblings and prancing of hoof, As I puzzled and pondered over the sound Down the chimney St. Nicholas came with a bound!

He had tissue in hand, his face was pure white The circles 'neath his eyes were as black as the night, His eyes how they watered! His nose - oh so red! He itched and he scratched from his toes to his head.

His chest was retracting, he struggled for air I thought 'twas a dream, but the signs were all there. Why Santa has asthma! The poor tired soul! He nodded, "I left my meds at the North Pole."

Out came the nebulizer, the nose spray as well, And he felt much better after a spell. I got my peak flow and asked him to blow. He hit 750 or so.

Then sipping some tea, he was soon on the mend, Why, he even joined AAFA-Maryland! And I heard him exclaim as away he stole, "Thanks a million, my asthma's now under control."

So parents and kids, when you have trouble breathing -You're sick, missing out, and you really are seething -Take your meds, call your doctor, get lots of rest. Pretty soon you'll feel better - you'll run with the best.

And remember *lots* of people have asthma like you. Athletes, teachers, and - Santa Clause too!



HEALTH AWARENESS WEEK

On October 12, 1998 the Combined Health Agencies of Maryland kicked off Health Awareness Week with a performance by Slim Goodbody and an appearance by Pam Shriver at the Towson Town Mall. AAFA-MD provided transportation for inner city children to attend the event, along with receiving a generous donation of 200 apples from Metro Foods for the children. The children were delighted to participate in a musical odyssey of song and dance about the human body.

HELP WANTED

BREATHE LIFE INTO THE BREATHMOBILE

We need your support with the upcoming gala and golf tournament. These special events will raise much needed funds for the AAFA-MD BreathMobile.

We can place you and your special skills in your area of expertise or interest. Please give us a call at (410) 321-4710 and ask for Heather Kratz.

These fun events will help get our BreathMobile to the schools to those who need our help the most -- **our children**.

≣ Thank You… ≡

The Asthma & Allergy Foundation of America, Maryland Chapter, is pleased to highlight the following pharmacies of the month. These pharmacies are committed to providing you with the support you need to help manage your disease.

NORTH LAKE PHARMACY, INC. Germantown, MD & CHESAPEAKE INFUSION, INC. Elkton, MD

Memorials

The Asthma & Allergy Foundation of America, Maryland Chapter, would like to extend its sincere sympathy and thanks to the families and friends of:

> Kenneth Vining and Anne Johnson

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Asthma and Allergy Foundation of America Maryland Chapter

> Asthma and Allergy Foundation of America Maryland Chapter Chester Building, Suite 321 8600 LaSalle Road Towson, Maryland 21286-2002

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AAFA Maryland-DC thanks its many supporters for a wonderful year and sends wishes to all for a happy and healthy holiday season!

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	AAFA-MD GIVING OPPORTUNITIES		
relie	Asthma & Allergy Foundation of America, Maryland Chapter, s on public support to provide its many services. There are several you can help:		
	Membership \$25 One Year, \$45 Two Years; \$100 Professional		
	One Year; \$15 Senior Citizen or Student One Year		
	Memorial to Honor a Loved One Camp Scholarship Program		
	College Scholarship Program		
ō	Celebration Gift for a Birthday or Anniversary		
ā	Holiday Card Sent to Your Designation		
	BreathMobile Fund Donation		
	Breath Bequest Guild – Planned Giving		
	Corporate Matching Gift		
	Cash Donation		
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88	The Asthma & Allergy Foundation of America, Maryland Chapter Chester Building, Suite 321 • 8600 LaSalle Road Towson, Maryland 21286-2002		

Upcoming Events Calendar

December 1, 1998 7:00 - 9:00 p.m. MD Food Allergy & Asthma Network -Cecil County Satellite Paramedics Fire and Rescue When To Call 911 in Asthma & Food Allergy Emergencies

December 8, 1998 9:00 - 11:00 a.m. Montgomery AIR General Meeting Rockville, MD

December 11, 1998 9:00 a.m. - 4:00 p.m. World Asthma Day Greater Baltimore Asthma Coalition Informational Booth Johns Hopkins Asthma & Allergy Center

December 14, 1998 1:30 - 2:30 p.m. Young Parents Support Center The ABC's of Asthma

December 16, 1998 1:00 - 5:00 p.m. Eastern Boys & Girls Clubs Asthma Awareness Day December 20, 1998 Time & Activity TBA Support for Asthmatic Youth (SAY) Holiday Celebration

December, 1998 MD Food Allergy & Asthma Network Neighborhood Network Socials (Call for Dates and Times)

January 12-13, 1999 8:00 - 2:00 p.m. Chesapeake Senior High School Health Fair

January 14, 1999 7:00 - 9:00 p.m. MD Food Allergy & Asthma Network North Baltimore Satellite Meeting Greater Baltimore Medical Center

January 21, 1999 2:00 - 4:00 p.m. Greater Baltimore Asthma Coalition General Meeting

January 27, 1999 8:30 - 2:30 p.m. Golden Ring Middle School Health Fair

The mission of the Asthma and Allergy Foundation of America, Maryland Chapter is to help asthma and allergy sufferers to successfully manage and control their disease through the support of education, referrals and research.