ASTHMA & ALLERGY

BULLETIN

ASTHMA AND ALLERGY FOUNDATION OF AMERICA • NEW ENGLAND CHAPTER

Asthma, Allergies & the Environment

Co-written by Shalini Shah DO & Marissa Hauptman, MD, MPH



You may be familiar with the phrase, "we are what we eat" — based on a concept that our health is impacted by the dietary choices we make each day, and our overall wellness is linked to the cumulative effect of these decisions over time. In the world of allergies and asthma, perhaps a more appropriate analogy would be "we are what we breathe". This shift in perspective allows us to consider that the environments in which we live, learn, work, and play significantly affect individuals with asthma and allergies.

What do we know now? The link between asthma, allergies, and the environment has been studied extensively and is seen in our understanding of how environmental factors trigger these conditions. Indoor environmental considerations known to impact these conditions include dust, mold, rodents, pests/mites, and indoor air pollutants such as secondhand smoke, nitrogen oxide from gas stoves, and particulate matter from urbanization/neighborhood

traffic exposure (1). Outdoor environmental factors include air pollution (e.g. particulate matter, ozone, nitrogen dioxide, sulfur dioxide) and allergens (e.g. pollen, weeds/grasses) and more (1,2). Avoidance of there triggers leads to better symptom and disease control.

What's to come? Not only are these connections between environment and disease present, they are expected to worsen and be compounded by climate change, the looming public health emergency of our time. Studies show that global warming due to climate change is making allergy seasons longer and more severe (3). Extreme heat, especially in urban areas, favors increases in ozone, VOC and nitrogen oxide levels, which has been linked to worsening asthma flares (4). This means that those individuals with asthma and allergic disease are particularly vulnerable to health impacts of climate change. While climate change affects everyone, it most heavily affects the health of people who are experiencing chronic health conditions and disabilities, social and/or economic disadvantages, and environmental exposures. A history of systemic injustices means that climate change hazards disproportionately affect neighborhoods where people of color, people with limited understanding of English and people with low incomes live, which further results in disproportionate negative health consequences for these communities (5).

(continued on page 2)



Join Us and Get Involved!

- Attend our Speaker Series Programs and learn from the experts!
- Advocate with with us for changes in public policy that will benefit the asthma and allergy community!
- Spread Awareness by participating in our social media!
- Volunteer for fun and meaningful work!
- Support AAFA New England: your donations help us all help us all "for life without limits"!

Oral Immunotherapy (OIT)

Written by Chen E. Rosenberg, MD



A food allergy is defined as an adverse response to a food that is mediated by the immune system. For example, if you have an allergy to peanut, your immune system identifies peanut as a danger signal, or allergen. An allergen is a type of antigen or substance that

produces an abnormally vigorous immune response in which the immune system tries to fend off a perceived threat that would otherwise be harmless to the body. There are different types of food allergies, which can be broadly divided into immediate type (IgEmediated) food allergies or nonimmediate type (delayed type or non-IgE-mediated) food allergies. The immune system generates immunoglobulin E antibodies specific to the allergen; IgE is the antibody type that mediates responses to allergens and plays an important role in allergic diseases such as allergic rhinitis, asthma, food allergy, atopic dermatitis (eczema). When the immune system encounters a specific

(continued on page 3)

ASTHMA, ALLERGIES & THE ENVIRONMENT (continued from page 1)

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What can we do? Knowing that trigger avoidance improves symptoms, a better understanding of one's environment and the health hazards within it can be quite powerful in breaking the cycle of exposure and disease. Both healthcare providers and patients should discuss potential environmental exposures that impact their health at visits and ways to minimize potential health threats. To start, patients with asthma and allergies can familiarize themselves with their local Air Quality Index (airnow.gov) to better prepare for high risk days by minimizing exposure wherever possible, recognizing symptoms early, and keeping rescue medications nearby for better control. However, identification and education is not enough for the vast majority of patients with asthma. More resources are greatly needed to support environmental interventions at homes and schools of the families of children suffering from asthma.

Where can you find help? The Region 1 New England Pediatric Environmental Health Specialty Unit (PEHSU), which covers the New England states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, is one of ten regional units in the U.S. that has been providing services for over twenty years. It is a collaborative effort between the Pediatric Environmental Health Center (PEHC) at Boston Children's Hospital, the Occupational and Environmental Health Center of Cambridge Health Alliance, the Maternal Fetal Medicine Division at Beth Israel Deaconess Medical Center and the Lead Clinic at Boston Medical Center. Together, our goal is to improve children's health and reproductive health by leading the integration of environmental health into clinical care and public health. The Region 1 New England PEHSU aims to support communities as they address historical injustices and ongoing environmental racism, and the existential threat of climate change. Our program is available to provide community members and medical providers both education and consultative medical care so as to address effectively environmental concerns in pediatric and reproductive health.

Contact us at www.childrenshospital.org/pehc and www.pehsu.net Telephone Consultation — Call us at 617-355-8177. For General, Non-Clinical Inquiries - Email us as region1PEHSU@childrens.harvard.edu

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ORAL IMMUNOTHERAPY (OIT) (continued from page 1)

allergen, IgE antibodies travel to and activate cells that release desensitization to the allergenic food(s) with OIT. chemical mediators, leading to an allergic reaction. IgEmediated reactions typically occur immediately after ingestion Risks include frequent side effects. The majority of reactions or exposure to a food whereas non-IgE-mediated reactions are that occur during OIT are mild, but common and should delayed.

Oral immunotherapy (OIT) is a treatment for patients with esophagitis. Challenges include the likelihood that patients food allergies that helps to reduce their risk of severe allergic will have to be on daily therapy for the rest of their lives in reactions through the process of desensitization. A person order to maintain their tolerance. In addition to making a becomes desensitized to a food by ingesting small amounts of commitment to daily dosing, patients have to limit allergic the food protein that are gradually increased over time. The reaction/anaphylaxis cofactors when they take their OIT process allows the body's immune system to become used dose, including exercise, illness, tiredness, uncontrolled to the food so that it no longer causes an allergic reaction. allergic comorbidities, and medications such as NSAIDs. Desensitizing an individual to their allergenic food(s) may Some patients develop taste aversion. Continued carriage lower the risk of life-threatening allergic reactions and lead to of epinephrine autoinjectors, is still required for those a decreased sensitivity to the food(s).

gradually increasing doses of food protein with the aim of and it is important for patients and families to weigh possible enabling patients to eat varying amounts without reactions. benefits of OIT against these risks and challenges. Food allergies treated with OIT in clinical trials include allergies to milk, egg, peanut, tree nut(s), wheat, soy and sesame. In Management of food allergies includes food allergen our peanut oral immunotherapy program, the initial visit avoidance and having epinephrine autoinjectors available is conducted over 3-4 hours (similar to a food challenge), in case of allergic reactions due to unintentional exposures. and involves administration of several very, very low doses An alternative or adjunctive therapy includes food of peanut. Following the visit, the patient consumes the oral immunotherapy. In January daily dose of peanut protein that was tolerated during their approved Palforzia, initial clinic visit. Patients return for follow-up visits every 2 immunotherapy treatment for peanut allergy, which is weeks for dose increases during the updosing or build-up great news for our patients. Some clinical practices period until they reach the goal maintenance dose, which offer oral food desensitization using food products as varies depending upon the protocol. Once the maintenance routine clinical care. Interventions currently being studied dose has been attained, follow up visits occur every several in clinical trials include: epicutaneous, sublingual and months for check-ins, which can become part of their regular subcutaneous immunotherapies, peanut DNA and peanut allergy follow up appointments. The maintenance phase lasts peptide vaccines, live biotherapeutic products for years. At present, ongoing, regular ingestion of peanut is combination with oral immunotherapy, and biologic advised as maintenance therapy.

systemic allergic reactions to accidental peanut exposure and immunotherapy. decreased sensitivity to peanut. Peanut, egg and milk OIT have been shown to desensitize approximately 60 to 80% of patients studied. OIT may not be equally efficacious for every food allergy. Effectiveness of OIT can vary based on age, pubertal stage, level of sensitization to the food, presence of and level of control of additional atopic conditions (such as allergic rhinitis and asthma), compliance and duration of OIT. A recent meta-analysis study of many peanut OIT studies in LANCET revealed that quality of life (QoL) is not improved, and reactions are increased (including anaphylaxis) in children and adults on OIT compared to children avoiding allergenic foods. However, review of individual studies on QoL of individuals undergoing OIT, there is a trend for improved QoL. Anecdotally, patients who reach maintenance phase do report improved Dr. Chen E Rosenberg, MD, is a Pediatric Allergist/ QoL. It is important to consider OIT goals and readiness of Immunologist at Massachusetts General Hospital for both caregivers and the patient. There is variable and limited Children and an instructor at Harvard Medical School. She data to support that OIT can lead to permanent, long-term has special interests in food allergy, food oral tolerance to the allergenic food (for example, the ability to eat immunotherapy, and investigational therapies for food the previously allergic food at any amount or any frequency) allergy. without any problems or the need for daily dosing. It is likely that patients will have to continue daily therapy for the rest of their lives. A small percentage of patients do not achieve

be anticipated. There is also the potential for anaphylaxis. Another risk includes the development of eosinophilic participating in OIT. The protection against large accidental exposures is unknown, but likely, reactions are less severe The treatment process involves administration of small, after desensitization. OIT is not a cure for their food allergy

FDA 2020, the the first approved oral therapies (medications that are made from antibodies that have been changes so the antibodies modulate the allergic Benefits of OIT include the potential for lowering the risk of response) alone or in combination with food oral



AAFA New England: News & Notes

LEGISLATIVE ADVOCACY

AAFA New England remains active advocating for our community at both the state and federal level. The following bills are supported by AAFA New England. Please continue reading to learn more about the efforts being made to help our asthma and allergy community live active, healthy lives.

Federal:

AAFA New England strongly endorses the Food Labeling Modernization Act (FLMA) (H.R.4917/S.2594).

The bill, introduced by Representative Frank Pallone (D-NJ) and Senator Richard Blumenthal (D-CT), along with Representative Rosa DeLauro (D-CT) and Senators Ed Markey (D-MA) and Sheldon Whitehouse (D-RI), would increase consumer transparency, encourage product reformulation, and counter misleading food claims. Food labels can play an important role in promoting healthy eating and preventing diet-related chronic diseases. Yet today's food labels do not provide the simple, straightforward information that consumers need to evaluate products and make healthy choices. For example, studies show that consumers with less education and lower incomes are less likely to use the complex Nutrition Facts label, demonstrating inequitable access to nutrition information under current labeling policies.

To make nutrition information more accessible, the FLMA directs the Food and Drug Administration (FDA) to establish a simple, standard front-of-package labeling system for foods sold in the United States. Dozens of countries have implemented similar systems and seen significant public health gains.

The FLMA also brings food labels into the 21st century by requiring that nutrition, ingredient, and allergen information be available for grocery items sold online. Nearly one-third of Americans regularly buy groceries online. This has increased during the pandemic and is a trend that is not going away.

Updates to align food labeling laws with modern consumer practices are long overdue. The bill will help counter misleading claims that make foods appear healthier than they truly are. For example, consumers sometimes misjudge the whole grain content of foods with claims like "multigrain" and "honey wheat." The FLMA would require products using terms like these to also declare what percent of the grains are whole versus refined. This transparency will make it easier for consumers to follow dietary recommendations to make at least half of one's daily grains whole grains.

Please contact your state representatives and state senators and ask them to support the health of our nation and consumers' fundamental right to know what is in their food by supporting the Food Labeling Modernization Act!



State:

MA H.2392 An Act to establish a division of indoor environments within the Department of Public Health and MA H.2393 An Act relative to improving asthma in schools

On October 21, AAFA New England provided evidence-based information to Massachusetts state legislators at a virtual Briefing on H.2392 and H.2393, at the request of Representative Dave Rogers who introduced these two bills.

Jan Hanson, AAFA New England President, provided a slide deck that addressed alarming asthma statistics in the Commonwealth. environmental triggers and risk factors for developing asthma, including the vulnerability of children and the disproportionate burden affecting our underserved populations and communities of color, and presented strategies to achieve better health outcomes in alignment with those outlined in H.2392 and H.2393 for asthma remediation. AAFA New England's Executive Director Julie Flynn and Amy Dow, Director of Education Programs attended the Briefing to provide further resources in support of these two bills. We are grateful for the important contributions by Dr. Margee Louisias, Brigham & Women's Hospital, and AAFA NE Board member, Dr. Marissa Hauptman, Boston Children's Hospital, and Dr. Quindelyn Cook, Boston Medical Center, who were present at the Briefing as part of the AAFA New England "team" to provide their professional experiences and expertise in support of these two bills.

On May 3, Jan Hanson provided written and oral testimony in support of H.2393 at the virtual Hearing of the Joint Committee on Public Health, and on October 15, Jan provided written testimony in support of H.2392 at the virtual Hearing of the Joint Committee on Public Health.

MA S.1389 An Act to improve food allergy awareness

On October 7, AAFA New England President Jan Hanson provided written testimony in support of S.1389 at the virtual Hearing of the Joint Committee on Public Health on behalf of our food allergy community to help enhance the safety of those with food allergies when eating out at restaurants.

AAFANE's testimony and/or the Asthma and Indoor Air Quality PowerPoint are available by emailing aafane@aafane.org.

AAFA New England: News & Notes (continued from page 4)



Our Fall events have all been recorded and can be found at asthmaandallergies.org

Asthma Goal Series: Living with Asthma — The Engaged Patient



Arnita Roberts-Christie RN, BSN, MS Patient Engagement Liasion at GlaxoSmithKline, discussed the impact of asthma, what an engaged patient is and why it is important to be engaged in your health care, how to be a goal setter, how to best partner with your doctor, and how to practice self-care.

Disparities in the Healthcare Delivery System: Part II



Dr. Quindelyn Cook: Assistant Professor of Pediatrics, Associate Program Director of the Boston Combined Residency Program, Boston Medical Center



Dr. Margee Louisias: Director of Diversity and Inclusion with the Division of Allergy and Immunology at Brigham and Women's Hospital



Dr. Lakiea Wright: Associate Physician, Brigham and Women's Hospital

Our panel of doctors discussed:

- Environmental Racism and how it can cause or worsen allergic reactions
- Food Insecurity and how it manifests in patients with food allergies
- Lack of racial diversity in clinical trials and our healthcare workforce
- Education, Risk Factors, and myths regarding Allergic reactions to the mRNA based COVID-19 vaccines

Understanding Your Health Insurance Options

Andrea Rodriguez, RN, BSN Genetech Patient Liasion, explored how changes in health insurance may affect your coverage and costs.



Important News if you have Eczema!



The FDA has recently approved RINVOQ® for the treatment of refractory, moderate to severe atopic dermatitis in adults and children 12 years and older.

AAFANE Makes a Virtual Visit to the Worcester WooSox!

AAFA New England Leadership and members of our community met with the WooSox management team on January 27, 2022 to engage in an important discussion about peanut allergy-friendly baseball games for the 2022 season. Stay tuned for more information!

Research: Opportunities to Get Involved



The Food Allergy Center at Massachusetts General Hospital has several upcoming clinical trials for infants, toddlers, adolescents, and adults. Many studies involve peanut allergy, while one study involves multiple food allergies. We have several trials starting for Eosinophilic Esophagitis.

Multiple food allergies: Toddler to Adult:

- 1. Multiple-food oral immunotherapy (OIT) (peanut and 2 other foods) + Omalizumab
- Phase III study enrolling now.
- Ages 1-55 years old.
- Participants must be allergic to peanuts and at least two other foods (milk, egg, wheat, cashew, hazelnut or walnut)
- Participants will receive omalizumab injections alone or in combination with multiallergen oral immunotherapy (OIT). The total study duration including long-term followup and dietary integration could last approximately 4 years.
- Participants must react at entry food challenges to peanut and 2 other allergens listed to be eligible.
- Omalizumab as Monotherapy and as Adjunct Therapy to Multi-Allergen OIT in Food Allergic Participants - Full Text View - ClinicalTrials.gov

Peanut allergy: Toddler/Early Preschool

- 2. Peanut OIT
- Phase III study—enrolling soon (early 2021)
- Age 1 to <4 years old
- Participants must be sensitized to peanut or have a history of allergic reactions to peanut. All participants must react to peanut at an entry food challenge to peanut to be eligible.
- The maximum duration of subject participation in this study is approximately 12 months.
- Participants will be randomized to receive either peanut OIT or placebo in a ratio of 2:1. Participants who receive placebo will have the opportunity to receive peanut OIT by enrolling in a follow-up study.
- Efficacy of treatment with AR101 will be evaluated by tolerability of single doses of peanut protein in a double-blind, placebo-controlled food challenge.
- Immune response and changes in control of pre existing atopic diseases (asthma, atopic dermatitis) will be evaluated.
- Peanut Oral Immunotherapy Study of Early Intervention for Desensitization - Full Text View -ClinicalTrials.gov

If you are interested in receiving information regarding any of the following MGH studies, please email foodallergy@mgh.harvard.edu



The Asthma/ Allergy Clinical Research Center is a National Institutes of Health (NIH) funded Center, currently recruiting for a number of studies for patients with asthma and/or allergies! All visits are compensated and all travel to and from the hospital is covered by the research group. The studies also provide free medications. Call or email to see if you or your child is eligible for any of these exciting studies!

•PARK (Preventing Asthma in High Risk Kids): Park is a prevention study aimed at identifying whether 2 years of treatment with Xolair® (Anti-IgE) injections can prevent lasting asthma or reduce asthma severity in children ages 2-4 years with a history of wheezing, allergies, and family history. We will also evaluate whether this treatment stops or modifies the allergic march, which includes eczema, food allergies and other allergic conditions. https://parkstudy.org/

https://vector.childrenshospital.org/2016/08/asthmaprevention-xolair/

- •IDEA (Investigating Dupilumab's Effect on Asthma by genotype) In this research study, we want to learn if the study drug (Dupixent® Dupilumab) helps to control your asthma. We are particularly interested in understanding if people who have a certain genetic make-up (genotype) will respond better to this treatment. This study enrolls participants age 12 and above.
- •ADRN (Atopic Dermatitis Research Network) We are investigating mechanisms of atopic dermatitis in any age 6 and above. This study wants to understand how the severity of atopic dermatitis or eczema is influenced by genetic factors. This study enrolls participants age 6 and older.
- PRECISE: We are investigating whether novel therapies can help asthma in adolescents and adults. This study enrolls participants age 12 and above. https://preciseasthma.org/preciseweb/
- •SARP (Severe Asthma Research Program): We are investigating mechanisms of severe asthma. This study enrolls participants age 12 and above.
- http://www.severeasthma.org/
 •EASY (Environmental Assessment of Sleep in Youth)
 Study of home environmental factors (noise, air quality, etc.) in the child's home to modify the quality of sleep.
 The study is for children ages 6-12 years old.

Boston Children's Hospital studies provide free treatments, compensation for time and travel. For more information about any of the above BCH studies and/or to refer potential interested families, please email asthma@childrens.harvard.edu or call 857-218-5336.

https://www.childrenshospital.org/research/centers-departmental-programs/asthma-clinical-research-center

THANK YOU TO OUR CORPORATE PARTNERS

AAFA New England is grateful for the support of our Corporate Partners in 2022. Their generous support allows us to provide valuable resources to help our members live life fully with asthma and allergies.

The Thoracic Foundation



THANK YOU TO OUR COMMUNITY!

On behalf of the AAFA New England Board of Directors and Medical Advisory Committee and team, we sincerely thank you for your support in 2021. Despite the challenges imposed by COVID-19 restrictions, we have had an amazing year!

We are proud to have provided you with seven terrific Speaker Series Programs that addressed asthma management, tips for difficult to control eczema, the groundbreaking work of the Food Allergy Science Initiative (FASI), Disparities in the Healthcare Delivery System, and Understanding Health Insurance Options.

We advocated tirelessly with state legislators for the passage of bills that would improve food allergy protocols at restaurants and at school, and address indoor air quality remediation so that better asthma health outcomes may be achieved. We donated over 800 peak flow meters to assist those living with asthma in underserved communities.

Our virtual Fall Gala 2021 was a huge success, as we celebrated our two 2021 Champions of the Asthma and Allergy Community, Anne Dixon, MD, BM BCh and Jacqueline Rodriguez-Louis, MPH, M.Ed, for their outstanding dedication and work.

We look forward to 2022! Get Involved and Join Us!

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School Nurses and Health Clinics FYI

AAFA New England is donating over 18,000 new Respiratory Care Products!

Available items: Brand new Peak flow meters (adult & pediatric), mouthpieces (adult & pediatric), nose clips and calibration syringes, in their original packaging, are available for immediate distribution.

It is AAFA New England's goal to help improve access to needed respiratory care equipment for community health centers, schools, and camps for patients and families impacted by asthma in underserved communities.

If you would like more information or to place an order for any of the above products please email us at respicare@aafane.org



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