Family Adaptation to Children’s Food Allergies

Some families need help coping with anxiety around food allergies

Researchers have discovered four distinct patterns of family adaptation to food allergy. More than half of families suffer high anxiety that can interfere with daily activities and quality of life. A moderate level of anxiety may be beneficial to sustain vigilance for food avoidance. However, excessive anxiety can negatively impact daily activities and quality of life for the entire family. National Jewish Health Professor Emeritus Mary Klinnert, PhD, and her colleagues identified four basic categories of family response to food allergies, which may help identify families in need of intervention.

In the article, “Patterns of Adaptation to Food Allergies,” published in the December 2015 issue of the journal Allergy, Dr. Klinnert and her colleagues evaluated children with documented food allergies and their mothers with interviews, questionnaires and demonstrations of their techniques for administering epinephrine via EpiPen® autoinjectors. The researchers identified distinct patterns of food allergy management, which clustered into four categories, based on the adequacy of family food allergy management, levels of anxiety and balanced psychosocial functioning.

High Responders:
High competency in food allergy management, but high food allergy-related anxiety with potential for interference in family activities and functioning.

Balanced Responders:
Able to adequately manage food allergy while minimizing effects on parent or child psychosocial functioning.

Anxious High Responders:
High competency in food allergy management, but also very high anxiety levels. Worse quality of life and burden for parents, higher impairment in caregiver-supervised social activities and higher ratings of the likelihood of their child dying from food allergy.

Low Responders:
Moderate anxiety around food allergies, but serious inadequacies in food avoidance and knowledge, and poor preparation for effective response to reactions.

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The High Responders and Anxious High Responders, accounting for more than half the families evaluated, could benefit from mental health interventions that help them cope with and process severe food allergy reactions; cognitive behavioral therapy to reduce extreme perceptions of threat; and improved skills for coping with anxiety and day-to-day challenges of food allergies. Children of these families could be helped by promoting age-appropriate self-management capabilities, including self-advocacy, symptom awareness and response readiness.

Reference:
Subcutaneous vs. Sublingual Allergen Immunotherapy
A comparison of new treatment options for clinicians to consider

National Jewish Health Professor of Medicine and immunotherapy expert Harold (Hal) Nelson, MD, recently compared in *Immunology and Allergy Clinics of North America* subcutaneous (SCIT) and sublingual (SLIT) immunotherapy for various allergic conditions to help practitioners determine which will work best for their patients. Both SLIT and SCIT are effective for allergic rhinitis and allergic asthma, with some support for use in patients with atopic dermatitis. Use of SLIT for food allergy is still under investigation, but studies show some efficacy and good safety. SCIT for food allergy proved too dangerous for clinical application.

Both SCIT and SLIT modify the underlying immune process but require relatively long treatment, typically 3 – 5 years. The lesser frequency and severity of systemic reactions allow SLIT to be home administered after the first dose. Good comparative studies of the two methods are lacking. However, available evidence suggests superior short-term efficacy with SCIT.

**Shared Attributes of SLIT and SCIT**

- Effective treatment of allergic rhinitis and allergic asthma, with some support for use in selected patients with atopic dermatitis
- Defined optimal doses for standardized SCIT liquid extracts and SLIT tablets
- Evidence for disease modification
- Reduction of additional sensitization in monosensitized patients
- Reduction in the development of asthma in patients with allergic rhinitis
- Benefits that persist after stopping an effective course of treatment

**Differing Attributes of SLIT and SCIT**

- Fewer and less severe systemic reactions with SLIT
- SCIT too dangerous for food allergy
- Lack of defined optimal doses for SLIT liquids
- Proven effectiveness of multiple allergen mixes with SCIT but not SLIT
- Better clinical efficacy for hymenoptera venom with SCIT

Reference:
African American asthma patients whose disease is not controlled on inhaled corticosteroids alone now have an alternative therapy. According to researchers at National Jewish Health and other institutions, the anticholinergic medication tiotropium presents a reasonable alternative to long-acting beta agonists. The efficacy and safety of long-acting beta agonists (LABAs) have been questioned, especially in black populations, but tiotropium was approved in September 2015 for use in asthma.

It was compared to long-acting beta agonists in the “Blacks and Exacerbations on LABA vs. Tiotropium (BELT)” study. Results were published in the Journal of the American Medical Association (JAMA).

The researchers, led by National Jewish Health Professor of Medicine Michael Wechsler, MD, enrolled 1,070 black asthma patients with moderate to severe asthma and followed them for up to 18 months. Half received inhaled corticosteroids (ICS) plus once-daily tiotropium, while the other half received ICS plus twice-daily LABA, either formoterol or salmeterol.

Tiotropium and LABAs performed equally as measured by time to first exacerbation. The mean number of exacerbations per person per year was 0.42 for ICS + tiotropium, and 0.37 for ICS + LABA. Margin of error made the two measures equivalent. The tiotropium group suffered more hospitalizations (19) than did the LABA group (10).

There were no differences in various other measures, including change in forced expiratory volume in one second (FEV1), asthma control questionnaire scores and other patient-reported outcomes. There was also no difference among patients with different forms of the receptor for LABAs.

Dr. Wechsler is the principal investigator for the ongoing NIH National Heart, Lung and Blood Institute-sponsored Best African American Response to Asthma Drugs (BARD) study, aimed at improving asthma therapy for black patients, who are disproportionately burdened by the disease.

Reference:
Cigarette Smoke Induces Epithelial Permeability Through HER2 Pathway

Currently available HER2 inhibitors might reduce epithelial injury and pulmonary dysfunction

New research identifies new mechanisms and possible new therapeutic targets to regulate epithelial injury and permeability caused by cigarette smoke. The airway epithelium is a protective barrier against inhaled insults such as viruses, bacteria and toxic fumes, including cigarette smoke. While cigarette smoke has been shown to increase epithelial permeability and contribute to chronic obstructive pulmonary disease, current understanding of the mechanisms involved remains incomplete.

National Jewish Health physicians Russell Bowler, MD, PhD; Hong Wei Chu, MD; James Finigan, MD; and their colleagues found that cigarette smoke activates the pulmonary epithelial receptor HER2 and that HER2 is a central mediator of cigarette smoke-induced epithelial barrier dysfunction. This has immediate translational potential, as HER2 inhibitors are currently available and in use in patients with breast cancer.

Over time, changes in epithelial barrier function stimulate a fibrotic response and lead to the development of pulmonary fibrosis with compromised lung function. This study is the first description of an essential role for HER2 in cigarette smoke-mediated effects on the epithelial barrier. That HER2 is activated in smokers and patients with COPD suggests that targeting HER2 with currently available inhibitors might be beneficial in reducing epithelial injury and pulmonary dysfunction cause by cigarette smoke.

Reference:
Bowler, RP, Chu, HW, Finigan, JH et al. “Cigarette Smoke Induces HER2 Dependent Changes in Epithelial Permeability,” American Journal of Respiratory Cell and Molecular Biology, 24 November 2015, 10.1165/rcmb.2-14-0437OC
Sarcoidosis Program at National Jewish Health

Sarcoidosis is a multi-system granulomatous disorder characterized by non-necrotizing granulomas infiltrating affected organs, which can lead to organ dysfunction. Although sarcoidosis involves the lungs in over 90 percent of cases, any organ can be affected. Sarcoidosis can have significant morbidity and mortality.

The Sarcoidosis Program at National Jewish Health is a multi-disciplinary program with four physicians who have extensive expertise in sarcoidosis. Those physicians evaluate and manage patients with a suspected or established diagnosis of sarcoidosis. The program is part of the granuloma program, which also evaluates patients with beryllium disease and hypersensitivity pneumonitis.

Patients with pulmonary and extra-pulmonary disease are closely managed in collaboration with physicians from other sub-specialties, including cardiologists, radiologists, neurologists and gastroenterologists. National Jewish Health also partners with community colleagues in the care of their sarcoidosis patients. Doctors at National Jewish Health have expertise in the use of steroid-sparing agents and advanced therapeutics in the management of sarcoidosis patients with progressive and/or multi-system disease.

In addition to caring for sarcoidosis patients, translational and basic research to better understand sarcoidosis and to improve the overall care and management of patients is part of the program. Clinical trials investigating novel therapeutics for sarcoidosis are also provided.

To refer a patient to the program, please call 800.652.9555. To view sarcoidosis clinical trials that are currently recruiting patients, visit njhealth.org/clinicaltrials.

National Jewish Health at Highlands Ranch Expands Services

National Jewish Health at Highlands Ranch is now offering adult pulmonary services. Evan Stepp, MD, pulmonologist and director of the Highlands Ranch clinic, has recently begun seeing patients in Highlands Ranch.

In addition, beginning in July, pediatric allergy and immunology services will increase to four days a week with the addition of Carah Santos, MD. Dr. Santos will see patients on Tuesdays and Fridays. She joins Donna Bratton, MD, and Jennifer Fish, NP, to expand the National Jewish Health for Kids practice.

National Jewish Health at Highlands Ranch is committed to providing convenient access to world-renowned care.

For patient referrals, please call 303.703.3646, or for an overnight sleep study call 303.270.2708.

Pediatric Appointments within 48 Hours

To refer a patient: Call Physician Line: 1.800.652.9555 or visit njhealth.org/professionals and click on the “Refer a Patient” button to submit a secure, confidential referral.
Schedule of Upcoming CME Activities
Presented by the Office of Professional Education at National Jewish Health

Courses will be held in the Molly Blank Conference Center on the National Jewish Health campus.

21st Annual Regional Allied Health Conference

**Friday, Sept. 9, 2016, 8 a.m. to 4 p.m.**

This full-day program provides an update for registered nurses, advanced practice nurses, respiratory therapists, physician assistants and allied health professionals who work with patients who have chronic diseases and conditions. This program will be certified for educational credit.

For more information or to register, please visit [www.njhealth.org/AlliedHealthCare](http://www.njhealth.org/AlliedHealthCare) or contact the Office of Professional Education at National Jewish Health at 303.398.1000 or proed@njhealth.org.

2016 Carolyn and Matthew Bucksbaum NTM Lecture Series for Providers

**Thursday, Sept. 15, 8 a.m. to 5 p.m., and Friday, Sept. 16, 8 a.m. to 4:45 p.m.**

Leading medical experts in nontuberculous mycobacterial (NTM) infections will provide updates on research, treatment and prevention, which will enable providers to advance their understanding and improve the care of patients with NTM infections.

The lecture series is intended for family physicians and internal medicine physicians, along with pulmonologists, infectious disease physicians, physician assistants, advanced practice nurses, registered nurses and other health care professionals who diagnose and treat patients with NTM. This program is certified for CME and CNE.

Register at [njhealth.org/2016NTMproviders](http://njhealth.org/2016NTMproviders), or contact the Office of Professional Education at National Jewish Health at 303.398.1000 or proed@njhealth.org.

NTM Lecture Series for Patients

Additionally, a one-day NTM lecture series for patients currently diagnosed with NTM infections and their families will take place on Saturday, Sept. 17, 2016, also at National Jewish Health. Patients and their families will spend a day learning from expert faculty about NTM topics relating to medical issues and quality of life.

More information and registration will be available soon at [njhealth.org/CME](http://njhealth.org/CME).
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