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If you or someone in your home has a sensitivity to dust or allergens, the Electrolux Oxygen³ Ultra is the vacuum of choice. That’s because it keeps your home virtually dirt, dander and allergen-free with a unique HEPA filtration system and patented Microseal® Technology. Plus, the anti-odor S-bag purifies air while absorbing and neutralizing odors in your home. So if you’ve been looking for a vacuum that can leave your home healthier, it's time to take a deep breath and relax.

To find out more about the Electrolux Oxygen³ Ultra today, visit sears.com.
Editorial

Allergists/immunologists and other health care professionals have made considerable progress in understanding asthma and other allergic diseases over the last two decades. Yet, the number of Americans suffering from these diseases has not declined, and in some instances, such as food allergy, has dramatically increased.

Why nearly 20% of adults and 40% of children suffer from allergic diseases is not known. Theories for this high prevalence rate include better living conditions and hygiene and more widespread use of antibiotics, environmental factors such as diesel exhaust particles or exposure to airborne pollens, life style and diet changes and genetic predisposition. It is likely that all of these and other factors contribute to the development of allergies.

Because asthma and allergic disease are so common, the members of the American Academy of Allergy, Asthma & Immunology (AAAAI) devote their professional lives towards gaining better understanding of how these diseases develop and how best to recognize and appropriately treat them. This is why we at the AAAAI are excited to participate in this independent supplement discussing some of the more common allergic diseases such as asthma, allergic rhinitis (or hay fever), insect allergies, food allergies and the progression from one to another. This latter concept, termed the “atopic march” highlights that infants and young children often have a progression from food allergy and/or atopic dermatitis or eczema to allergic respiratory diseases such as hay fever, and ultimately, asthma. Indeed, the likelihood of developing asthma is much higher in children who have other allergic disorders and allergies are significant triggers for asthma in 80% or more of children and 50-60% of adults.

One question often asked is: how does one “develop” an allergy? First, you have to have the genetic predisposition to make a key antibody, IgE, to a trigger, such as cat dander. This process is called sensitization. This IgE antibody then attaches to immune cells known as mast cells and basophils, and serves to capture cat dander when inhaled. This triggers a number of biochemical events ultimately resulting in mast cells and basophils releasing chemicals that cause the symptoms of allergies and promote inflammation. One of the released chemicals is histamine, and this is why “anti”-histamines are often used to treat allergies. However, a number of other chemicals are also released and the inflammation that results from an allergic reaction can lead to long-term problems. This is why antihistamines may not be totally effective for relieving the symptoms of allergies. Also, many of the “over-the-counter” antihistamines cause sedation and impair abilities to learn, work, drive and function.

Did you know that hay fever or allergic rhinitis can lead to 2 million lost days of school and 10 million lost days of work every year? Children don’t learn as well in the classroom and adults don’t function as well at their jobs during the peak allergy season. This is compounded by inadequate or inappropriate treatment. That is why it is so important to see an allergist/immunologist to determine if your symptoms are the result of allergies. If so, the allergist/immunologist can best manage your allergies and give advice on avoidance and the use of appropriate medications, and when indicated, prescribe allergy immunotherapy.

This is an exciting time for us in the AAAAI as we study ways to prevent and reverse asthma and other allergic diseases. We would like to be able to manipulate the immune system to prevent the child with food allergy from developing asthma, or better yet, to stop the development of food allergy before a child has an acute life threatening reaction to peanuts. Our ultimate goal is to educate the public and health care providers about asthma and allergic diseases, advocate for our patients to receive appropriate care, and advance science so you and your children are protected against the consequences of allergies.

Thomas B. Casale, MD, FAACAI
President 2007-2008
American Academy of Allergy, Asthma & Immunology

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About this section: This special advertising section was written by MediaPlanet in conjunction with the advertising department of The Washington Post and did not involve the news department of this newspaper.
**Is it an Allergy or a Cold?**

Noticing the difference between a persistent cold and allergies can improve your health.

"Millions of Americans think they are suffering from a cold when they're actually experiencing allergies," says Anju Peters, MD, Chair of the American Academy of Allergy, Asthma & Immunology's (AAAAI) Rhinosinusitis Committee. "Cold and allergy symptoms can be very similar. The main difference is the length of time symptoms last. A cold normally disappears after a week or so, but allergies can last much longer."

Dr. Paul Greenberger is a Professor of Medicine in the Allergy-Immunology Division at Northwestern University's Feinberg School of Medicine. According to Dr. Greenberger, "Allergies cannot be passed from person to person and are persistent, unlike a cold. They are seasonal and can be triggered by specific substances or environmental factors," he adds. "It can be tree pollen as early as February and grass pollen in May."

Dust mites, mold, or pet dander can also produce antigens and yearly-round symptoms like itching of the eyes and nose. These are classic allergy signs that differ from the systemic response of a cold; an infection caused by a virus with a limited time span of 2 to 14 days. General aches, pains, or fever can sometimes accompany a cold, which is never the case with allergies.

Although there is no cure for allergies, several treatment options are available, including over-the-counter and prescription medications. Immunotherapy, commonly known as allergy shots, is another alternative. Unlike a cold, allergic disease is not a condition that someone can just "get over." However, the help of an allergist/immunologist can reduce how often people need to stay home from work or school due to symptoms.

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**Have Allergies?**

Have you seen an allergist/immunologist?

"A key step toward controlling allergies is finding the right medical professional to consult, according to Dr. Michael Schatz, Clinical Professor of Medicine at the University of California San Diego and Chief of the San Diego Kaiser Permanente Allergy Department. "Appropriate diagnosis and management can make the difference between suffering with allergies and living well with allergies," says Dr. Schatz.

An allergist/immunologist is a physician specially trained to manage and treat allergies and asthma. Becoming an allergist/immunologist requires:

- Three years of training in internal medicine (to become an internist) or pediatrics (to become a pediatrician) following medical school
- Passage of the exam of either the American Board of Pediatrics or the American Board of Internal Medicine (ABAI)
- Internists or pediatricians who focus on the subspecialty of allergy/immunology and become allergist/immunologists complete at least an additional two years of study, in an allergy/immunology training program
- ABAI-certified allergist/immunologists have passed the certifying examination of the ABAI, following their fellowship.

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**What is an Allergist/Immunologist?**

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**WARNING TIME**

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<th>Colds</th>
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<td>Can include fever, body aches and pains, along with allergy symptoms.</td>
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**Table:** Differences between Allergies and Colds

- **Symptoms**
  - Allergies: Runny or stuffed nose, sneezing, watery and itchy eyes and wheezing (associated with asthma).
  - Colds: Can include fever, body aches and pains, along with allergy symptoms.

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**FULL DISTANCE**

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- **Duration**
  - Allergies: Symptoms last as long as you are exposed to an allergen and beyond.
  - Colds: Symptoms should clear up within several days to a week.
The Inside Scoop on Indoor Allergens

The main factors that contribute to indoor allergens are dust, mold, and household pets.

Some low-end vacuums simply blow the smallest dust particles through the bag and back into the air. It’s best to invest in a vacuum with a HEPA filter, which can remove 99.97 percent of the tiniest particles—the ones that are likely to trigger allergy symptoms. In addition, using an air conditioner is a smart choice because it both dehumidifies the air and filters out dust. Be sure to change your filter monthly.

You should also wash your sheets and linens weekly using hot water (above 130 degrees) to prevent dust mites. Be sure to dry them in a drying machine, otherwise these damp cloths can grow mold.

You should also prevent mold by keeping the surfaces in the bathroom and kitchen dry, and fixing any leaky pipes or cracks in the wall where water can seep in.

House pets can also irritate your allergies—but not, as is commonly believed, because of their fur. In fact, it is a protein found in animals’ saliva, dander (flakes of dead skin), and urine that causes allergic reactions in humans. Bathing your dogs or cats on a regular basis can help. Turtles, snakes, fish and other animals without fur or feathers won’t cause allergic reactions.

Displaying it safe outdoors

Outdoor allergies are triggered mainly by pollen and mold. Pollen is made of male cells of plants, trees, and grasses. The average pollen particle is hard to see; in fact it is thinner than a human hair.

Contrary to popular belief, most bright flowers do not stimulate allergies; they are pollinated by flying insects, so the particles tend to be too large and waxy to be blown around by the wind.

During the spring, the most common allergy-causing pollens come from trees.

During the spring, the most common allergy-causing pollens come from trees such as walnut, poplar, hickory, cypress, birch, elm, sycamore, ash, maple, and oak. In the late spring and early summer, they come from grasses like timothy, orchard, sweet vernal, and Bermuda. And in the fall, pollen mostly comes from ragweed and other weeds that have late pollination seasons.

Molds—microscopic fungi—can also trigger allergies. Some kinds of molds, especially in the Southern and Western United States, are present all year around. Other kinds reach their peaks in the summer or early fall. Common outdoor molds are alternaria, aspergillus, and cladosporium.

Pollen and mold counts

Pollen and mold counts measure the amount of airborne allergens present in the air. Counts are compiled by a variety of methods. Pollen and mold spore counts can be determined daily, and are reported as grains per cubic meter of air. Certified aerosol allergen counters at many universities, medical centers and clinics provide these counts on a volunteer basis.

The National Allergy Bureau (NAB) is the nation’s only pollen and mold counting network certified by the AAAAI. As a free service to the public, the NAB compiles pollen and mold counts from certified stations across the nation and reports them to the media three times each week. These counts are also available on the NAB page of the AAAAI’s Web site, www.aaaai.org.

Vacuuming Can Be Good For Your Health

Living with allergies is tough. Walking outside where there is dust, pollen, or flowering plants can ruin your day. But the home or office can be just as dangerous for allergy-sufferers.

In particular, carpets and other upholstery act as giant dust traps, capturing dirt, pollen, and dust. They also harbor dust mites, tiny living creatures that eat food crumbs and dead skin particles. A dirty carpet can hold up to 100,000 dust mites per square yard, and a single dust mite produces about 20 waste droppings each day—that’s two million droppings building up in your carpet every single day, and they all contain a protein which can aggravate your allergies.

Regular vacuum cleaners clean up visible dirt and grime, but if they do not have a tight seal or high-end filter, they can blow those particles right back out into the air. And these tiny particles, such as dust mite droppings, are what can really make you sick.

One of the best solutions is to use a vacuum with a High- Efficiency Particulate Air (HEPA) filtration system. The HEPA filtration system was originally designed in the 1940s to help scientists working on the atomic bomb prevent the spread of airborne radioactive particles. Today, the HEPA filter is available in high-end consumer vacuums. It can capture 99.97 percent of the particles that make you sick. While HEPA vacuums are more expensive than low-end vacuums, the health benefits they offer are worth the upfront cost. One of the best-value HEPA vacuums on the market is the Electrolux Oxygen3 Ultra, which Consumer Reports commends for its “superb carpet cleaning” and “superb pet-hair performance.”

A quality vacuum is key to keeping you healthy inside the home or office. Carpets and upholstery should be vacuumed at least once a week, preferably every couple days. You should also wash your bed linens every week. While they are in the washing machine, you can vacuum the surface of your mattress to prevent the buildup of dust mites where you sleep.

If you don’t have time to do a thorough cleaning, focus on the areas in your home or office where you spend the most time. Not all office buildings hire a professional cleaning service, so you might even consider buying an extra vacuum for the office—so you can take your allergy health in your own hands.

Avoiding Allergens Can Help Control Allergy Symptoms

Follow these simple tips to avoid or reduce your chances of having allergic reactions.

Allergens cause reactions in as many as one out of every six Americans. While medication can reduce these symptoms, one of the best ways to better health is to eliminate contact with the factors—both indoor and outdoor—that produce these allergens, according to the American Academy of Allergy, Asthma & Immunology (AAAAI).

Dos and don’ts

<table>
<thead>
<tr>
<th>Do</th>
<th>keep windows closed at night to prevent pollens or molds from drifting into your home. Instead, if needed, use air conditioning, which cleans, cools, and dries the air.</th>
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</thead>
<tbody>
<tr>
<td>Do</td>
<td>minimize early morning activity when pollen is usually emitted—between 5–10 a.m.</td>
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<tr>
<td>Do</td>
<td>keep your car windows closed when traveling.</td>
</tr>
<tr>
<td>Do</td>
<td>try to stay indoors when the pollen count or humidity is reported to be high, and on windy days when dust and pollen are blown about.</td>
</tr>
<tr>
<td>Do</td>
<td>take a vacation during the height of the pollen season to a more pollen-free area, such as the beach or sea.</td>
</tr>
<tr>
<td>Do</td>
<td>take medications prescribed by your allergist/immunologist regularly, in the recommended dosage.</td>
</tr>
<tr>
<td>Don’t</td>
<td>take more medication than recommended in an attempt to lessen your symptoms.</td>
</tr>
<tr>
<td>Don’t</td>
<td>mow lawns or be around freshly cut grass; mowing stirs up pollens and molds.</td>
</tr>
<tr>
<td>Don’t</td>
<td>rake leaves, as this also stirs up molds.</td>
</tr>
<tr>
<td>Don’t</td>
<td>hang sheets or clothing out to dry. Pollens and molds may collect in them.</td>
</tr>
<tr>
<td>Don’t</td>
<td>grow too many, or overwater, indoor plants if you are allergic to mold. Wet soil encourages mold growth.</td>
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Finding the Right Vacuum

If you suffer from allergies, when you shop for vacuum, make sure it has...

• A HEPA filtration system, which captures the smallest particles
• A microseal, which prevents dust particles from escaping
• A light or other indicator to tell you when to change bags
• A comfortable handle and button so you won’t get tired while using it.
EleCare® completes the line of Abbott Nutrition formulas that helps families with their special feeding needs. If your child cannot tolerate milk, soy, or protein hydrolysate formulas, EleCare may help to relieve a wide range of symptoms.

Ask your child’s doctor about EleCare, or to learn more, visit www.EleCare.com.

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Why Are So Many People Allergic?

Today it is estimated that up to 8% of American children less than 4 years of age experience some kind of food allergy. In two recent studies, the frequency of peanut allergy was found to have doubled in the past 5–10 years. By comparison, food allergies are believed to affect about 3.5% American adults, with shellfish fish being responsible for the most reactions.

Dr. Hugh Sampson, of the Mt. Sinai School of Medicine and President-elect of the American Academy of Allergy, Asthma & Immunology, says there is more than one theory about what is causing this sharp increase in allergies among children.

“It’s clearly a lifestyle issue,” says Dr. Sampson, a fact that he says scientists agree with. Research shows that children in developed nations have more allergies than children in underdeveloped countries.

Other theories suggest the “hygiene hypothesis,” which states that high levels of sanitation in our society can result in a child’s lack of early exposure to bacteria, microorganisms, and parasites—which actually help strengthen a child’s immune system and other biological processes.

Another theory points to how American food is used and processed. For example, Dr. Sampson points out that the way peanut butter is homogenized brings out the protein that causes peanut allergies.

Scientists are working on identifying why of the most common allergens causing foods—peanuts—can affect so many people.

Dr. Scott Sicherer, an Assistant Professor of Pediatrics at the Jaffe Food Allergy Institute of the Mount Sinai School of Medicine, is part of that research.

“Finding genes for peanut allergy or for food allergy in general would potentially allow for better identification of persons at risk—allowing us to tailor treatments,” says Dr. Sicherer. He says it would also allow for better diagnosis.

But the key in food allergy gene research is the clues researchers hope it will provide in illuminating some of the building blocks of allergies.

“Most importantly, identifying genes that determine food allergy would possibly help to unravel the basic mechanisms that cause the allergies,” says Dr. Sicherer.

He adds that these basics might lead to better medical treatments, but cautions that the road ahead in gene research could be a long one.

“Unfortunately, finding such genes is difficult, but work is underway,” says Dr. Sicherer.

The cause of food allergies likely lies in multiple factors, which means no one has yet gotten to the root of America’s growing food allergy problem. But by taking simple precautions and being aware of possible physical reactions to food, most Americans can avoid serious complications.

When to seek help

If you experience coughing, choking, difficulty talking, drooling, swelling, or changes in levels of awareness after eating something, seek immediate medical attention. If you develop hives, skin rashes, itchiness, teary eyes, or nasal congestion, make an appointment to see a doctor—you could have food allergies.

Taking a Bite out of Food Allergies

Americans suffering from food allergies can seek treatments and preventions that can lead to a better quality of life.

Food allergies are the body’s response to specific food proteins. A person can be allergic to essentially any food, but the most common ones are peanuts, tree nuts, shellfish, dairy, and eggs.

A severe allergic reaction, called anaphylaxis, can occur within an hour— or even mere minutes— of eating a food. It can also result in a skin condition, difficulty breathing, unconsciousness, and even death.

More than ever before, people in the United States are showing this type of allergy. That is why it is so important to know the signs of food allergies and what to do if they occur.

Adults or children who experience coughing, choking, difficulty talking, drooling, swelling, or changes in levels of awareness need medical attention immediately. Those who develop hives, skin rashes, itchiness, teary eyes, or nasal congestion should also see a doctor.

An allergist/immunologist can help you better understand your allergy. He or she may prescribe a self-injectable shot of epinephrine (adrenaline) to keep on hand, which will help fight off a reaction until medical treatment is available in the event of a future allergy emergency.

For those patients who want to look into possible food allergies and their treatments through personal online research, physicians warn against blindly trusting information on the Internet.

According to Dr. Wesley Burks is Chief of the Pediatrics/Allergy and Immunology Division at Duke University, “One of the best resources in the United States for information on food allergies is the website for The Food Allergy and Anaphylaxis Network,” says Dr. Burks.

Unlike other allergies, there is currently no long-term medical treatment for food allergies. However, some children do overcome food allergies on their own as they grow older.

Understanding the Atopic March

If your child has allergies now, they might grow along with him.

Dr. Scott Sicherer is an Associate Professor of Pediatrics at the Jaffe Food Allergy Institute of the Mount Sinai School of Medicine in New York City. Dr. Sicherer specializes in food allergies, and says that atopic dermatitis could be a red flag.

“Atopic dermatitis is often a first sign that a person, an infant usually, may be prone to allergies,” says Dr. Sicherer.

Many young patients with atopic dermatitis also suffer from food allergies. Identifying the food allergies becomes key in treatment and developing lifestyle habits that will help the patient avoid contact with potential allergens.

“We know that for infants and young children with atopic dermatitis, about one in three will have food allergy that contributes to or occurs along with the rash,” says Dr. Sicherer. “Also, allergies to environmental triggers such as animal dander can contribute to the rash,” he adds.

Dr.icherer recommends that you first visit a pediatrician and get their advice. If necessary, you would then see an allergist or immunologist.
Improving Asthma Control
With Allergy Testing

Asthma affects more than 22 million Americans. Despite a wide array of powerful, effective medications available to treat the condition, many asthma patients continue to suffer from wheeze, cough, and shortness of breath—sometimes with symptoms so severe that they require treatment in the hospital. As a result, asthma is having a significant impact on society with lost days from work and school, reduced quality of life, and other lingering effects. The physicians treating asthma often struggle to bring symptom control and relief to their patients, and are seeking new and better ways to manage this often-devastating disease.

A wide body of clinical evidence shows that a vital strategy for improved asthma management is control of the triggers that cause asthma attacks and increase the severity of symptoms. As illustrated in the 2007 guidelines from the National Institutes of Health, the routine use of allergy testing to identify asthma triggers provides a powerful key to trigger control. By further understanding the knowledge underlying the symptoms and identifying the triggers that cause and exacerbate disease, allergists can guide measures to reduce exposure to them as part of a multifaceted treatment approach. This, in turn, can provide secondary prevention of asthma and asthma-related attacks in a significant number of patients.

Is it allergic asthma?
Does it matter?

Asthma and allergies often go hand in hand. A wealth of scientific evidence shows that most patients with asthma also have evidence of specific sensitivities to inhalant allergens. Furthermore, nearly 4 out of 5 adults suffering from asthma also have allergic rhinitis. This common upper respiratory condition is caused by the body’s inflammatory response to specific allergens such as airborne pollens, animal dander, dust mites, and molds—many of the same allergens that can trigger asthma symptoms.

"Substantially reducing such exposure may significantly reduce inflammation, symptoms, and need for medication."

As yet, these conditions cannot be cured. However, in addition to the many treatment options available to manage the symptoms of allergy and asthma, strategies that include targeting and reducing exposure to symptom triggers can significantly reduce, if not actually prevent, the number of episodes. Evidence shows that, when you use trigger-exposure reduction (avoidance) as part of a comprehensive asthma management program, you can ease symptoms. As a result, the asthma management guidelines from the National Institutes of Health urge allergen identification and exposure reduction as a core part of effective asthma management.

In patients with both asthma and allergic rhinitis, treatment for one condition helps reduce symptoms of the other. An international body of experts, Allergic Rhinitis and its Impact on Asthma (ARIA), has advised that:

- Patients with persistent allergic rhinitis be evaluated for asthma
- Patients with asthma be evaluated for rhinitis

When combined disease is found, patients be treated for both conditions

So whether an asthma patient has allergies or not can be a powerful determining factor for a physician. Both in allergic asthma and asthma accompanied by allergic rhinitis, such information can lead to a unified treatment strategy that combines trigger-exposure reduction (avoidance) together with pharmaceutical treatment for both allergies and asthma.

How can a physician tell for sure?

Unfortunately, looking at clinical signs and symptoms alone often does not supply enough information for even the most specialized doctors to know the actual underlying cause. While allergists and respiratory specialists often wind up diagnosing and treating patients with asthma, primary care physicians (including pediatricians and family doctors) are often the ones on the front lines.

These healthcare providers usually see the vast majority of such patients (by some estimates, up to 80% of the time), typically when patients need help determining why their asthma or allergies have worsened. Or the patient may be seeking care for some other condition and may demonstrate wheezing or have other allergy or asthma-related symptoms that come to the attention of the doctor.

In either case, a highly powerful laboratory diagnostic tool available for both specialists and primary care physicians is a simple blood test called the ImmunoCAP® Specific IgE blood test. ¹,²

What does ImmunoCAP® do?

ImmunoCAP utilizes state-of-the-art technology to help physicians identify the actual allergic trigger a patient is reacting to. When a person has an allergy to a specific substance (like pollen, dust mite, or dog dander) the body treats that substance as an invader. Each time the person comes in contact with the allergen, the body responds by releasing a chemical, immunoglobulin-E (IgE). The IgE attaches to blood cells called basophils and mast cells. These cells release histamine, leukotrienes, and other chemicals that trigger the inflammation that causes symptoms. ImmunoCAP measures specific IgE antibodies in the blood. If specific IgE is present, ImmunoCAP measures it with unmatched precision.³,⁴ Likewise, when the test detects no (or very low levels of) specific IgE, the clinician can then rule out allergy as an underlying process, and turn his or her efforts to identifying non-allergic triggers, such as tobacco smoke, airborne irritants, infection, and stress.⁵

In asthma, this information can help direct the use of targeted exposure-reduction strategies. In rhinitis, it can help determine if the symptoms may be non-allergic and help in the selection of the most appropriate treatment. It’s important to remember that about 50% of rhinitis patients have non-allergic disease,⁶ and non-sedating antihistamines have no established benefit in treating non-allergic rhinitis.⁷

ImmunoCAP is a highly sensitive allergy blood test. It has been proven clinically useful in helping specialists identify the trigger not only if people are allergic, but also exactly what they are allergic to. ImmunoCAP is already widely used by allergy specialists as well as pediatricians and other primary care physicians as they search for allergic triggers that might be driving asthma symptoms. It has also become one of the key diagnostic tools for the allergy specialist when evaluating difficult food sensitivities, especially in patients as young as young as early as age 0.

In the hands of allergy specialists, this information empowers both allergic and non-allergic patients to take control of their allergies and asthma. Furthermore, the treatment options available for asthma and allergy can be targeted and managed better to prevent asthmatic and allergic episodes and control the disease.

In short, the use of ImmunoCAP specific IgE blood testing in combination with physical exam and patient history improves the management of patients with allergy-like symptoms on all fronts. Diagnosis becomes more accurate for all physicians when specific IgE results are obtained. And the correct diagnosis facilitates the selection of appropriate management strategies such as pharmaceutical options, allergen immunotherapy, or allergen exposure reduction—or non-allergy based approaches when the results are negative.⁸

ImmunoCAP is a perfect example of how today’s cutting edge technology has evolved and can dramatically improve the quality of life for patients who suffer from asthma and allergies.

In a healthcare system that focuses more on fixing what’s broken than on preventive care, the information offered by this simple blood test can help all clinicians gain the knowledge necessary to guide effective treatment, thereby providing optimal care for those suffering from asthma. Ideally, this enhanced disease management will not only help to reduce patients’ symptoms and disease severity, but also may help ease the burden asthma often adds to their daily lives.

For more detailed information, please visit www.isitallergy.com.

Provided as an educational service by Phadia US Inc., makers of ImmunoCAP® Specific IgE blood test.

References:

2. NIH, Guide for the Diagnosis and Management of Asthma. NIH publication 89-4551.
Controlling Asthma with Web-Based Technology

Developments in the medical world are promising steps toward treating asthma.

Asthma is a serious disease. It is the reason that in 2006, there were an estimated 12.8 million lost school days in children and 10.1 million lost work days in adults. It is the cause for two million annual emergency room visits, and it costs Americans almost $20 billion in healthcare costs every year. It currently affects 23 million Americans, and about 7 million children are among those.

Backed by these startling statistics, The National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health (NIH) released a report over 300 pages long at the end of 2007 on asthma. The report includes Guidelines for the Diagnosis and Management of Asthma. Since the last NHLBI/NIH report on asthma, in 2002, great advancements have been made in research and improved scientific understanding of the disease. The emphasis in the current guidelines is on control.

According to Dr. Gary Rachelefsky, Professor of Allergy and Immunology at the Geffen School of Medicine at UCLA, the idea is to minimize medicine and improve the quality of life for patients.

“The problem with asthma in America is that people don’t take it as a serious disease,” says Dr. Rachelefsky. To counteract the impacts of asthma, specialists are getting behind a nationwide campaign to educate patients and clinicians about asthma as a disease and its treatments.

Part of the effort is a web-based tool called “ASTHMA IQ”. The tool helps allergist/immunologists and other asthma specialists learn about, and apply in everyday practice, the key components of new medical asthma guidelines. This should result in improved quality of care delivered to patients with asthma. ASTHMA IQ is designed to impart knowledge about a disease often misdiagnosed and viewed simply as a series of symptoms. Allergist/immunologists and other asthma specialists who use ASTHMA IQ will be able to better apply the guidelines to their practice and design specific plans to improve the care of their asthma patients.

Dr. Thomas Casale is President of the American Academy of Allergy, Asthma & Immunology (AAAAI) and Professor of Medicine and Medical Microbiology and Immunology and Chief of Allergy/Immunology at Creighton University in Omaha. Dr. Casale says that ASTHMA IQ can be a useful tool for physicians in diagnosis and treatment.

“ASTHMA IQ contains decision-support features that provide specific feedback based on patient’s age, asthma impairment, and asthma risk,” says Dr. Casale. “ASTHMA IQ can help physicians identify the most appropriate severity or control level and initiate or adjust therapies.”

Dr. Rachelefsky, of the Geffen School of Medicine at UCLA, sees many physicians using technology as an in-road to aiding in diagnosis and treatment. Implementing ASTHMA IQ will save health care dollars by assuring that patient care is appropriately managed. Knowledge of drug and treatment options is an important part of Asthma IQ. Inhaled steroids are a major component to controlling asthma. Used regularly, they help a person keep their airways from swelling. The level of steroids in an inhaler is much lower than oral tablets, use of which should be kept to a minimum. Tablets are usually taken when a patient loses control over their asthma.

“Asthma is a dynamic disease, not a fixed one,” says Dr. Rachelefsky. Symptoms and severity are subject to the environment. For example, if a patient is exposed to tobacco smoke, their asthma could be triggered to change. When control is lost when patients will experience exacerbations, and asthma becomes dangerous. Dr. William Busse is Professor and Chair of Medicine at the University of Wisconsin-Madison, and Chair of the Expert Panel Report 3 (EPR-3), the NHLBI/NIH report on asthma, upon which ASTHMA IQ is based. He says asthma specialists are “stepping up” asthma medications to gain better control but also “stepping back” when control is achieved. The idea is to aggressively suppress the disease using a step-wise approach to management.

ASTHMA IQ will officially roll-out in two weeks at the American Academy of Allergy, Asthma and Immunology’s Annual Meeting in Philadelphia.

Know the Basics About Blood Testing for Allergies

When it comes to testing for allergies, the modern medical world is full of options for patients, including blood testing.

Dr. Andy Liu, an Associate Professor of Pediatric Allergy and Immunology at National Jewish Medical and Research Center, says blood testing can work.

“One example of how the allergy testing in the blood can be particularly helpful is with food allergies,” says Dr. Liu. The method measures the levels of immunoglobulin E, or IgE, which is closely connected to antibodies and allergic symptoms.

ImmuoCAP, from Phadia, delivers reliable results that help physicians identify and manage patients with allergy or asthma—all from a simple blood sample.

“The ImmunoCAP gives additional information, more than the skin testing alone can provide,” says Dr. Liu. “The higher your IgE level to a food like peanuts, the more likely you are to be allergic to them, and the more likely that your peanut allergy will persist.”

Dr. Liu adds that it’s important to consult your physician before trusting a test.

“Not all systems [for blood testing] are clinically proven,” he says. “That is very important because if you use a system that is not clinically proven, it can give you false answers which is clearly dangerous. It could be deadly.”

Getting Exercise-Induced Asthma under Control

If exercising is a risky gateway to asthma for you or someone you know, there are ways to get the symptoms under control.

The good news is that with appropriate treatment, almost everyone with EIA can still exercise.

“Asthma with exercise is readily managed with proper warm up and warm down and appropriate medications including beta agonist bronchodilators with proper medications including proper warm up and warm down, beta agonist bronchodilators and/or inhaled steroid or leukotriene modifiers depending on severity and chronicity of asthma,” says Dr. Christopher Randolph.

Dr. Randolph is an Associate Clinical Professor at the Yale Division of Allergy in a private practice association with the Center for Allergy, Asthma and Immunology in Waterbury and Southbury, CT. For those who are still not convinced, Olympic athletes competing with asthma should offer encouraging examples of treatment success stories.

According to the American Academy of Allergy, Asthma & Immunology (AAAAI), about one in six athletes representing the United States in the 1996 Olympic Games had a history of asthma. Nearly 30% of those who had asthma or took asthma medications won team or individual medals in their Olympic competition.

Fast Facts About Asthma

- Asthma is a chronic lung disease in which airflow in and out of the lungs may be blocked by muscle squeezing, swelling and excess mucus.
- Asthma can be set off by environmental triggers, causing the airways to become narrowed and inflamed, resulting in wheezing and/or coughing symptoms.
- Asthma triggers include: allergens, irritants like tobacco smoke or strong odors, changes in weather, viral or sinus infections, exercise, medications, food, emotional anxiety and reflux disease.
- Even mild asthma can be life-threatening, but with physician care, it can be managed.
DESCRIPTION
PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% is a sterile ophthalmic solution containing olopatadine for topical administration to the eyes. Olopatadine hydrochloride is a white, crystalline, water-soluble powder with a molecular weight of 373.88 and a molecular formula of C_{21}H_{23}NO_{3} • HCl. The chemical structure is presented below:

![Chemical Structure of Olopatadine](image)

**Chemical Name:** 11-[(Z)-3-(Dimethylamino) propylidene]-6-11-dihydrodibenz[b,e] oxepin-2-acetic acid, hydrochloride.

Each mL of PATADAY™ solution contains: **Active:** 2.22 mg olopatadine hydrochloride equivalent to 2 mg olopatadine. **Inactives:** povidone; dibasic sodium phosphate; sodium chloride; edetate disodium; benzalkonium chloride 0.01% (preservative) hydrochloric acid / sodium hydroxide (adjust pH); and purified water. It has a pH of approximately 7 and an osmolality of approximately 300 mOsm/kg.

CLINICAL PHARMACOLOGY
Olopatadine is a relatively selective histamine H₁ antagonist and an inhibitor of the release of histamine from the mast cells. Decreased chemotaxis and inhibition of eosinophil activation has also been demonstrated. Olopatadine is devoid of effects on alpha-adrenergic, dopaminergic, and muscarinic type 1 and 2 receptors. Systemic bioavailability data upon topical ocular administration of PATADAY™ solution are not available. Following topical ocular administration of olopatadine 0.15% ophthalmic solution in man, olopatadine was shown to have a low systemic exposure. Two studies in normal volunteers (totaling 24 subjects) dosed bilaterally with olopatadine 0.15% ophthalmic solution once every 12 hours for 2 weeks demonstrated plasma concentrations to be generally below the quantitation limit of the assay (< 0.5 ng/mL). Samples in which olopatadine was quantifiable were typically found within 2 hours of dosing and ranged from 0.5 to 1.3 ng/mL. The elimination half-life in plasma following oral dosing was 8 to 12 hours, and elimination was predominantly through renal excretion. Approximately 60–70% of the dose was recovered in the urine as parent drug. Two metabolites, the mono-desmethyl and the N-oxide, were detected at low concentrations in the urine.

CLINICAL STUDIES
Results from clinical studies of up to 12 weeks duration demonstrate that PATADAY™ solution when dosed once a day is effective in the treatment of ocular itching associated with allergic conjunctivitis.

INDICATIONS AND USAGE
PATADAY™ solution is indicated for the treatment of ocular itching associated with allergic conjunctivitis.

CONTRAINDICATIONS
Hypersensitivity to any components of this product.

WARNINGS
For topical ocular use only. Not for injection or oral use.

PRECAUTIONS
Information for Patients
As with any eye drop, to prevent contaminating the dropper tip and solution, care should be taken not to touch the eyelids or surrounding areas with the dropper tip of the bottle. Keep bottle tightly closed when not in use. Patients should be advised not to wear a contact lens if their eye is red.

PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% should not be used to treat contact lens related irritation. The preservative in PATADAY™ solution, benzalkonium chloride, may be absorbed by soft contact lenses. Patients who wear soft contact lenses and whose eyes are not red, should be instructed to wait at least ten minutes after instilling PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% before they insert their contact lenses.

Carcinogenesis, Mutagenesis, Impairment of Fertility
Olopatadine administered orally was not carcinogenic in mice and rats in doses up to 500 mg/kg/day and 200 mg/kg/day, respectively. Based on a 40 µL drop size and a 50 kg person, these doses were approximately 150,000 and 50,000 times higher than the maximum recommended ocular human dose (MROHD). No mutagenic potential was observed when olopatadine was tested in an in vitro bacterial reverse mutation (Ames) test, an in vitro/mammalian chromosome aberration assay or an in vivo/mouse micronucleus test. Olopatadine administered to male and female rats at oral doses of approximately 100,000 times MROHD level resulted in a slight decrease in the fertility index and reduced implantation rate; no effects on reproductive function were observed at doses of approximately 15,000 times the MROHD level.

Pregnancy:
**Teratogenic effects:** Pregnancy Category C
Olopatadine was found not to be teratogenic in rats and rabbits. However, rats treated at 600 mg/kg/day, or 150,000 times the MROHD and rabbits treated at 400 mg/kg/day, or approximately 100,000 times the MROHD, during organogenesis showed a decrease in live fetuses. In addition, rats treated with 600 mg/kg/day of olopatadine during organogenesis showed a decrease in fetal weight. Further, rats treated with 600 mg/kg/day of olopatadine during late gestation through the lactation period showed a decrease in neonatal survival and body weight.

There are, however, no adequate and well-controlled studies in pregnant women. Because animal studies are not always predictive of human responses, this drug should be used in pregnant women only if the potential benefit to the mother justifies the potential risk to the embryo or fetus.

Nursing Mothers:
Olopatadine has been identified in the milk of nursing rats following oral administration. It is not known whether topical ocular administration could result in sufficient systemic absorption to produce detectable quantities in the human breast milk. Nevertheless, caution should be exercised when PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% is administered to a nursing mother.

Pediatric Use:
Safety and effectiveness in pediatric patients below the age of 3 years have not been established.

Geriatric Use:
No overall differences in safety and effectiveness have been observed between elderly and younger patients.

ADVERSE REACTIONS
Symptoms similar to cold syndrome and pharyngitis were reported at an incidence of approximately 10%. The following adverse experiences have been reported in 5% or less of patients:

**Ocular:** blurred vision, burning or stinging, conjunctivitis, dry eye, foreign body sensation, hyperemia, hypersensitivity, keratitis, lid edema, pain and ocular pruritus. Non-ocular: asthma, back pain, flu syndrome, headache, increased cough, infection, nausea, rhinitis, sinusitis and taste perversion. Some of these events were similar to the underlying disease being studied.

DOSE AND ADMINISTRATION
The recommended dose is one drop in each affected eye once a day.

HOW SUPPLIED
PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% is supplied in a white, oval, low density polyethylene DROP-TAINER® dispenser with a natural low density polyethylene dispensing plug and a white polypropylene cap. Tamper evidence is provided with a shrink band around the closure and neck area of the package.

NDC 0065-0272-25 2.5 mL fill in 4 mL oval bottle

Storage:
Store at 2°C to 25°C (36°F to 77°F)
U.S. Patents Nos. 4,871,865; 4,923,892; 5,116,863; 5,641,805; 6,995,186
Rx Only
PAT08504JA
Welcome Relief for Red, Itchy Eyes

If you suffer from allergy eyes, or allergic conjunctivitis, the first step is to identify what is causing it. The most common causes are allergens, which act as triggers.

Dr. Bob Lanier is a Clinical Professor of Pediatrics and Immunology at the University of North Texas Health Science Center, and says avoiding these triggers can be almost impossible. "It’s awfully difficult to avoid airborne pollens anytime, but especially it’s hard as the winds of spring stir the air," says Dr. Lanier. "What just ruffles your hair causes havoc in your eyes. You can feel the result, as the eyes water to rid themselves of the irritants, and cause misery with itching and swelling."

"Your choice is pretty clear — you have misery or you use medications," says Dr. Lanier. "But here's the problem. The medications we use by mouth (antihistamines) with nasal allergy can sometimes make the eyes worse. PATADAY applied directly to the eye surfaces soothes and prevents the allergy response for a whole day at a time."

Dr. Lanier says PATADAY could be the answer some allergy eye sufferers are looking for. "Your choice is pretty clear — you have misery or you use medications," says Dr. Lanier. "But here's the problem. The medications we use by mouth (antihistamines) with nasal allergy can sometimes make the eyes worse. PATADAY applied directly to the eye surfaces soothes and prevents the allergy response for a whole day at a time."

Dr. Lanier adds that the conveniences of PATADAY are important to remember when choosing treatment for your eyes. "With a once a day medication, your eyes can relax, and if you wear contacts, this once a day treatment is so useful," says Dr. Lanier.

Taking a Shot at Allergen Immunotherapy

Allergen immunotherapy, or allergy shots, is a long-term option for attaining stronger control of allergies, or possibly overcoming them all together.

Immuno therapy treatment is a series of shots with increasing levels of allergens intended to induce tolerance to these allergens. "It is the process of teaching the cells in the body to respond properly to allergens," according to Dr. Linda Cox, Chair of the American Academy of Allergy, Asthma & Immunology's Immunotherapy and Allergy Diagnostics Committee. She adds that through the treatments, "[The body] learns to tolerate these substances [allergens] which is what should have happened in early childhood."

Allergy shots treat allergic asthma, allergic rhinitis and conjunctivitis, as well as stinging insect allergy, but are not useful for food allergies.

The process involves a buildup phase and a maintenance phase. Buildup usually takes three to six months with one to two shots per week. The maintenance phase involves larger shot gaps of one to two shots per month and requires diligent visits for three to five years.

The process can yield impressive results. Dr. Richard Lockey is a Professor of Medicine, Pediatrics and Public Health at the University of South Florida and Director of the College of Medicine's Allergy and Immunology division. According to Dr. Lockey, success with insect venom is near 100 percent, and plant allergies are drastically reduced in most and completely overcome by some.

When immunotherapy is administered to children, usually over the age of five, it can prevent the development of additional allergies and asthma.

One reason younger children don't do immunotherapy is the frequent clinical visits, and required observation for at least thirty minutes after each shot to treat any side effects.

The use of sublingual tablets, replacing shots, would eliminate the frequent visits to the clinic. This treatment could be suitable for younger children, is currently being used in Europe, and is expected in America soon.

"Sublingual tablets seem to be safer, I would like to treat children before age five and possibly prevent the progression of their allergic disease," says Dr. Cox about the new form of treatment and its possibilities.

Dr. Cox is also looking forward to new modified allergen shots; another method that will reduce repetitive doctor visits. The allergens are modified so a patient’s body can receive more of them without an allergic response. "Four to six shots—boom—and you may be done," says Dr. Cox when describing the shots. This option is still in development.
Once-a-day relief for itchy allergy eyes. That’s genius.

Once-a-Day PATADAY™ Solution. The first and only once-a-day prescription eye drop that gives you relief from itchy allergy eyes. You’ll start feeling relief in minutes. See how beautiful life can be when you’re not seeing it through itchy allergy eyes. The most common side effects include cold, sore throat, blurred vision, burning or stinging. Ask your doctor if PATADAY™ Solution is right for you. You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

Call 1-877-3-PATADAY or visit pataday.com

Please see adjacent page for additional product information.