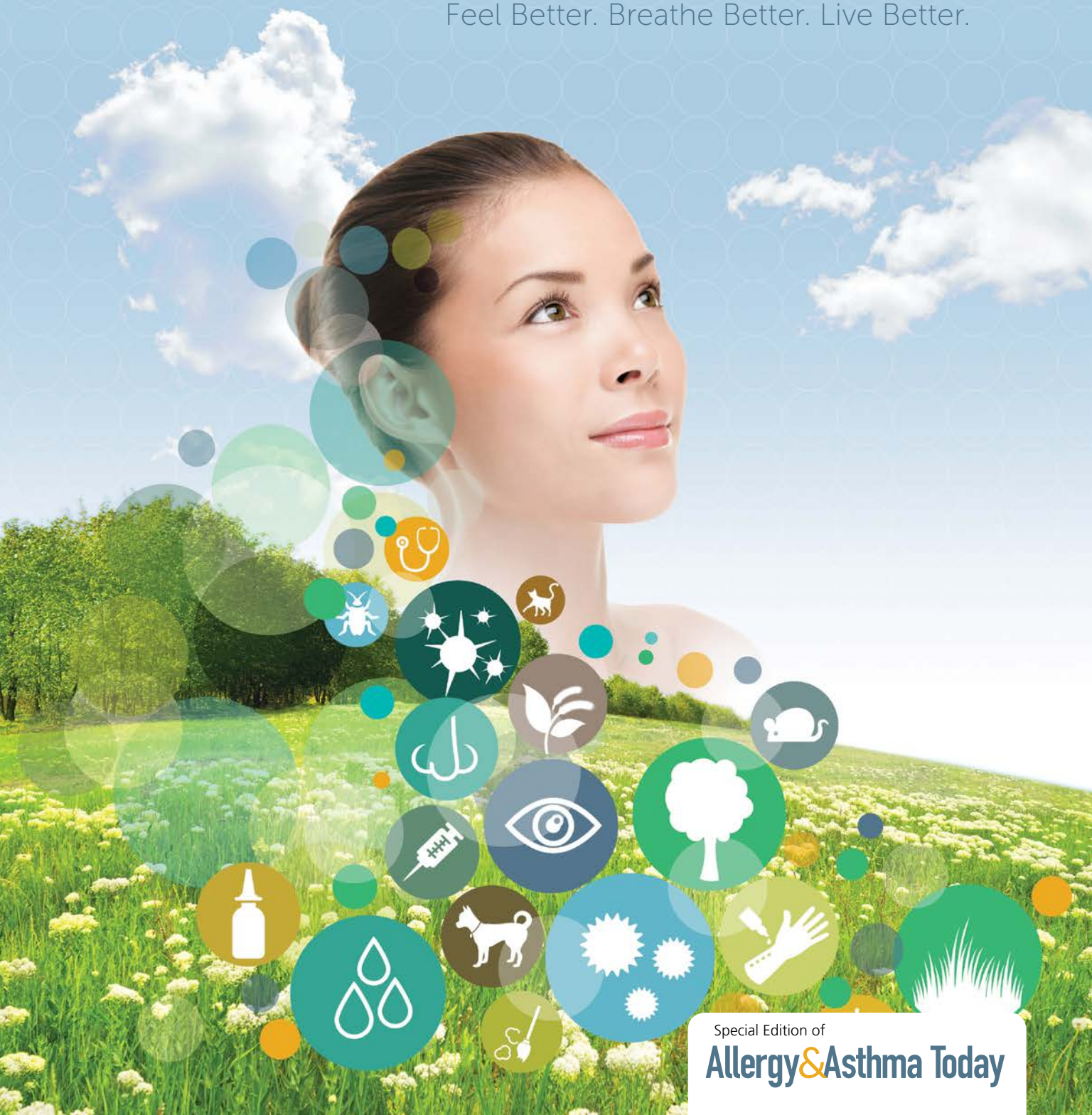




Understanding Allergies

Feel Better. Breathe Better. Live Better.



Special Edition of
Allergy & Asthma Today



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Who We Are

Allergy & Asthma Network is the leading nonprofit patient outreach, education, advocacy and research organization for people with asthma, allergies and related conditions.

Our patient-centered network unites individuals, families, healthcare professionals, industry leaders and government decision-makers to improve health and quality of life for the millions of people affected by asthma and allergies.

An innovator in encouraging family participation in treatment plans, Allergy & Asthma Network specializes in making accurate medical information relevant and understandable to all while promoting standards of care that are proven to work. We believe that integrating prevention with treatment helps reduce emergency healthcare visits, keeps children in school and adults at work, and allows participation in sports and other activities of daily life.

Our Mission

To end needless death and suffering due to asthma, allergies and related conditions through outreach, education, advocacy and research.

Allergy & Asthma Network is a 501(c)(3) organization.

Join Allergy & Asthma Network today, as we work to help patients and families breathe better together.
AllergyAsthmaNetwork.org/join

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You *Can* Control Your Allergies

I am not sure when “it’s just allergies” became a saying. With so many allergy medications available over-the-counter, many people feel they can simply self-diagnose. After all, it’s “just allergies” – not very serious. However, allergies can adversely affect your quality of life, causing discomfort, distraction and difficulty sleeping.

Allergy symptoms may be minor and annoying, serious and debilitating, or – in some cases – not caused by an allergy at all. In most instances there are options to curb or eliminate symptoms. But first, you

must make a decision to tackle this condition and decide you no longer want to dread certain seasons or tolerate a cascade of sneezing, coughing, runny nose and headaches.

As with all good fixes, it will take time and effort on your part. A good place to start your journey to understanding allergies is this magazine produced by Allergy & Asthma Network. Find out how to minimize symptoms with a specific management plan and a practical approach that works.

This is a complex subject, to be sure. Start with the basics – a clear definition of allergy

along with how your nose works and the impact allergens have on your nasal passages, eyes and airways. From there, learn which medication works best for you, if a nasal wash will keep your sinus problems in check, and how to keep your home free of allergens.

Shorten the learning curve by contacting a board-certified allergist. This specialist will take a detailed medical and family history, discuss your symptoms, use skin prick or blood tests to confirm a diagnosis – and bring you closer to control.

Once your allergist determines the cause of your allergies, together you can devise a personalized allergy plan that includes allergen avoidance and possibly medications, allergy shots or under-the-tongue tablets. Allergists can help you explore all options and help improve your quality of life.

It’s time to enjoy all the seasons, reduce your number of tissues, sleep through the night – and stop thinking “it’s just allergies.”

Bryan Martin, DO, FAAAAI

Past-President, American College of Allergy, Asthma & Immunology (ACAAI)

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"Every spring I get a runny nose and postnasal drip that leads to nighttime coughing – it really saps my energy during the day."



"Whenever my daughter is around her grandmother's dog, she starts sneezing and her skin breaks out in an itchy rash."

The Allergic Condition

Environmental allergies are not just an annoyance; they are a serious health issue that can interfere with day-to-day activities and impact quality of life. Left untreated, nasal and eye allergies can lead to sinusitis, ear infections and eye inflammation. They are a leading factor in asthma symptoms.

A person with allergies has an immune system that often treats normally harmless allergens like pollen, mold, animal dander and dust mites the way it does disease-carrying germs. How and why does this happen?

Chain Reaction:

How the Immune System Handles Allergens

The human immune system is the body's defense against sickness and infection. It tries to prevent germs, allergens and foreign substances from entering the body

and then works to eliminate any that get through.

"The immune system works around the clock in many different ways but goes largely unnoticed," says Tera Crisalida, PA-C, MPAS, a physician assistant in Tempe, Arizona. "Think of your immune system as a housecleaning device – it recognizes when there's cleaning to be done and provides the tools for it."

Every day, people inhale foreign substances in the air, from outdoor allergens like pollen and mold to indoor allergens like dust or animal dander. Usually the immune system isolates and digests these allergens quietly and efficiently.

In people with allergies, the immune system identifies these substances as dangerous invaders and produces protective antibodies that set off a complex series of chemical reactions to destroy them. Antibodies are proteins in your blood used by your immune system to



"I figured my sinus pain and congestion every fall was the result of a cold. Turns out it was allergic rhinitis."



"I'm tired of seeing the world through red, itchy eyes. I can hardly look at a magazine without a burning sensation."

recognize and fight off germs. The antibody associated with allergy is IgE, or Immunoglobulin E. Everyone has a certain amount of IgE in their blood, but people with allergies have more than usual.

How does an allergic reaction occur? When you come in contact with an allergen for the first time, your immune system creates a specific IgE antibody to fight it. When you come in contact with the same allergen a second time, the IgE antibodies start their attack.

They attach themselves to white blood cells called mast cells that line the mucous membrane of the nose, eyes and lungs. In response, the mast cells release chemicals such as histamine, cytokines and leukotrienes designed to seek and destroy the allergen invaders.

The process leaves a wake of inflammation in its path. The lining of the airways becomes irritated. Cilia, tiny hairs that trap and sweep allergens out of the airways, become bogged down with mucus and excess fluid, and allergy symptoms appear.

Allergy symptoms include runny nose, nasal congestion, postnasal drip, sneezing, coughing and

shortness of breath. Eyes may begin to itch or get watery. Skin may develop eczema or hives.

The tendency to develop allergies is often – but not always – hereditary, passed down from generation to generation. Not everyone in a family will be allergic to the same things, however – and some may not be allergic at all.

ALLERGY MYTH

MYTH: I've never had allergies before, so this runny nose must be a cold.

TRUTH: You can develop allergies – as well as different allergies – at any age. If your eyes, nose and throat are itchy, your nasal drip is clear and thin, and symptoms last longer than two weeks, it could be an allergy.



When It's Not Just Allergies

ALLERGIC ASTHMA



Allergic asthma occurs when inhaled allergens – pollen, mold, pet dander, dust mites – cause airway passages in your lungs to become inflamed and swollen, restricting airflow. As airway muscles struggle to open the breathing passages, they twitch and go into bronchospasm.

Symptoms include coughing, wheezing and difficulty breathing.

People with allergic asthma may also experience asthma symptoms when exposed to airway irritants such as secondhand smoke, air pollution and cold air, and to respiratory viruses such as cold and flu.

ALLERGIC RHINITIS



Allergic rhinitis, or inflammation of the nasal passages, is caused by the body's reactions to airborne allergens.

Symptoms include a runny nose, swollen and congested nasal passages, sneezing fits, itchy nose, postnasal drip, headaches, and a decreased sense of smell or taste. People with chronic rhinitis sometimes complain of constant fatigue.

Untreated rhinitis can lead to ear and sinus infections and set off asthma symptoms.

ECZEMA



Eczema, or atopic dermatitis, is often caused by environmental or food allergies, but the condition is made worse by excessive skin dryness, injury from scratching, and inflammation from bacteria in the skin. Common indoor allergens that cause eczema include dust mites and pet dander.

Symptoms include inflamed, dry and thickened skin accompanied by

constant, intense itching and scratching. The condition is more common among children, with symptoms starting as early as 6 months of age. With time and treatment, eczema will often disappear during childhood – but it sometimes continues into adulthood.

Many patients require topical corticosteroid skin ointments or creams to help control eczema.

EYE ALLERGIES



Called allergic conjunctivitis, eye allergies develop when an allergen you are sensitized to comes in contact with your eyes. If you wear contact lenses, sometimes allergens such as pollen get trapped underneath the lens.

Symptoms include redness, a burning sensation, itching, tears, sensitivity to light and eyelid swelling. In severe cases, there's blurred vision.

Similar nonallergic symptoms come from irritants in the air like tobacco smoke or air pollution. Contact lens solution has also been known to cause irritation.

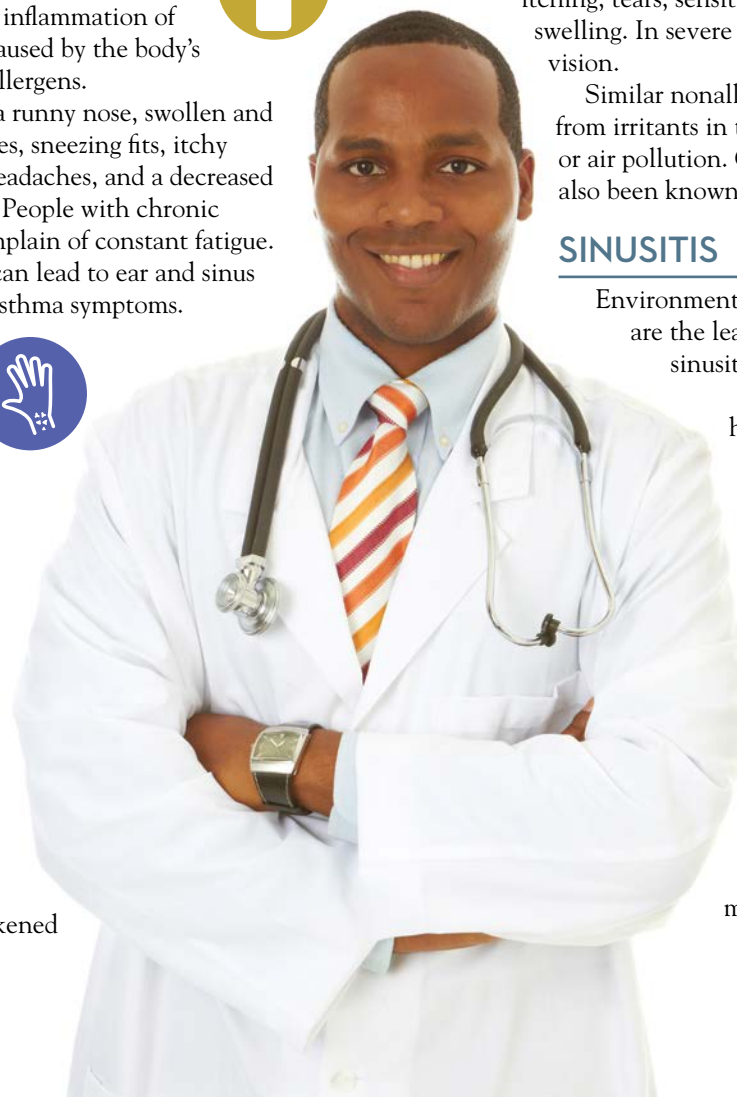
SINUSITIS



Environmental allergies are the leading cause of sinusitis, or sinus infections.

Symptoms include headaches, postnasal drip, green or gray nasal discharge, a feeling of pressure in the face, coughing, frequently clearing your throat, earache and problems with sense of smell.

Sinusitis is easily mistaken for other conditions such as tension headaches or oral hygiene problems. Untreated, it can lead to ear infections (otitis media) and asthma flares.





ALLERGY DICTIONARY

Anti-IgE: Medication that binds to IgE antibodies and prevents allergens from triggering allergic reactions.

Allergen: Anything that causes an allergic reaction. Common types include pollen, mold, animal dander and dust mites.

Anaphylaxis: A life-threatening allergic reaction that often occurs suddenly and affects more than one organ system.

Antibody: Protein in the blood that identifies and attacks foreign objects like bacteria or viruses.

Antigen: Anything that causes the immune system to react.

Antihistamine: A medicine used to block the effects of histamine, a chemical that is released during an allergic reaction. *(Note: Antihistamines do not stop anaphylaxis.)*

Asthma: A chronic lung disease in which the airways overreact to allergens and irritants by becoming inflamed or obstructed, making it difficult to breathe. It causes episodes of coughing, wheezing and shortness of breath. Asthma cannot be cured, but it is usually very manageable.

Conjunctivitis: Inflammation of the tissue inside of the eyelid.

Decongestant: Medication that shrinks swollen and irritated mucous membranes in nasal passages and reduces fluid that leaks into the tissue.

Histamine: One of several chemicals released by the body that causes many of the symptoms of an allergic reaction.

Hives: Itchy, swollen, red bumps or patches on the skin that appear suddenly as a result of the body's adverse reaction to certain allergens.

IgE: Antibodies produced by the immune system that set off allergy symptoms.

Immune System: The body's defense against infectious organisms and other invaders.

Immunotherapy: A treatment in which tiny amounts of an allergen are given to a patient, with the goal of boosting tolerance to the allergen and reducing symptoms.

Anatomy of a Sneeze

Why do people sneeze? Simply put, people sneeze in response to an irritation or tickle in their nose.

When the inside of your nose gets a tickle, the nerve endings send a message to the sneeze center in your brain. This transmits a call to an amazingly complex set of muscles to get rid of the tickle, FAST!

In a split second, your stomach, chest, diaphragm (the breathing muscle beneath your lungs), vocal cord, throat, face and eyelid muscles flex and ... AH-CHOO! At a roaring 600 miles per hour, your body tries to dislodge the pollen, dust, pepper, mold, virus, or bacteria trapped in your nose. (Kids sneeze at about 100 miles per hour.)

Some people sneeze when they breathe cold air. Others sneeze in threes. And still others sneeze when stepping from dark into bright light – if you're one of them, you've got a condition called "photic" (meaning "light") sneezing. It's inherited – it runs in the family.



Leukotrienes: Inflammatory chemicals released as part of an allergic reaction, causing excess mucus and fluid.

Mast Cells: White blood cells that contain chemicals including histamine that are released during an allergic reaction or in response to inflammation.

Mucous Membrane: The tissue that lines nasal passages, sinuses and airways.

Postnasal Drip: Excess mucus running down the back of the nose to the throat.

Urticaria: A medical term for itchy rash or hives.



Outdoor Allergens

POLLEN PRIMER



Pollen grains from trees, grasses and weeds float through the air in spring, summer and fall. On their way to fertilize plants and tree flowers, pollen particles often end up in our noses, eyes, ears and mouths.

Trees are the first plants to release their pollen in late winter and early spring. Grass pollen emerges in late spring and summer, and pollen from weeds, especially the potent ragweed, arrives in late summer and fall.

Pollen that causes allergy tends to be small, light and dry. It is easily spread by wind over long distances.

Airborne pollen is usually highest early in the day just after the dew dries and on into late morning. There is often a burst of pollen into the air when the wind comes up just before a rainstorm. During and after the rain, however, pollen becomes damp and heavy with moisture, keeping it still and on the ground.

MOLD SPORES



Mold is a fungus that grows in damp, dark places – hiding outdoors under fallen leaves or in the rotting vegetation that was once a thriving garden.

Mold's microscopic spores – reproductive seeds – fly through the air at the smallest disturbance, whether a breeze or a scampering squirrel. Their tiny size enables them to easily penetrate the small airways of the human lungs, where they can trigger allergy and asthma symptoms.

In northern areas of the United States, outdoor mold growth begins after the first spring thaw and peaks in late summer and fall. When the temperature drops below freezing, most molds become dormant, but do not die.

Mold colonies reproduce and release spores year-round in southern and western parts of the United States that have no prolonged snow cover.



Indoor Allergens

PETS

Allergic reactions to cats, dogs and other furry animals are caused by proteins found in flecks of the pets' skin, called dander, as well as in their saliva and urine. These tiny proteins settle in furniture, rugs and house dust that circulates throughout your home.

Pet allergens can cause reactions when they're inhaled, get in the eyes, or come in contact with skin. Just walking into a room where a cat or dog has been can cause symptoms to flare; touching the animal or being licked may cause itching and hives. Reactions can happen within minutes or may be delayed for hours after exposure.

DUST MITES

Dust mites are tiny critters that live in mattresses, pillows and upholstered furniture – anywhere they can find moisture along with their favorite food, tiny bits of shed human skin. They thrive and multiply fast in warm, humid environments.

You can't see them and they don't bite, but allergens from their droppings and dead bodies collect in bedding, furnishings and dust, then irritate nasal passages and eyes on contact and when inhaled.

COCKROACHES AND MICE

Cockroaches and mice are mostly nocturnal, scavenging at night for food and water – and leaving behind trails of allergens that cause symptoms on contact or when inhaled. Cockroach allergens are believed to be feces, saliva and body parts; mice allergens are skin, saliva and urine.

These pests hide in cracks and crevices in homes and move freely from room to room or adjoining housing units via wall spaces, plumbing and other utility installations. Mice are capable of fitting through very small openings in floors, walls and foundations. Cockroaches prefer a moist, warm habitat.

Allergen levels are usually highest on kitchen cabinets and floors, while moisture-laden bathrooms are secondary areas. Poorly contained food and garbage in kitchens is a well-known risk factor. The bedroom is another prime location for cockroaches, particularly in heavily infested homes.

INDOOR MOLD

Indoor mold typically appears as brown/yellow or black/green splotches and often has a musty odor.

It can grow on any organic substance, as long as moisture and oxygen are present, and often lurks in damp areas such as basements, attics, under sink cabinets and carpets, refrigerators, garbage containers, clothes dryers and house plants. Dusty and musty old books, magazines and newspapers are also breeding grounds that many people overlook.

Mold can become a significant problem if it remains undiscovered or unaddressed. When inhaled, mold can cause allergy symptoms such as sneezing, runny or stuffy nose, itchy eyes and throat, swollen eyelids and coughing.

DUST

Dust inside homes can contain many allergens from pets, cockroaches and dust mites, as well as mold and pollen that comes in through open windows or on clothes. Symptoms often become worse during or immediately after vacuuming or dusting because it stirs up dust particles, making them easier to inhale.



Your Nose: The Ultimate Air Cleaner

Your nose does more than just decorate your face. It's part of a personal air treatment system, cleverly designed to protect the delicate tissues of your lungs that transfer oxygen from the air you breathe into your bloodstream and vital organs.

When working efficiently, your nose:

- **Filters** or cleans the air, catching and trapping tiny particles before they can get into your lungs
- **Adds moisture** to the air to keep your airways from drying out
- **Warms** the air to body temperature before it reaches your lungs



The Filtering Process

The airway passages that run from your nose, through your nasal cavity and into your lungs are lined with a thin layer of sticky mucus that traps dust particles, bacteria and other pollutants.

Tiny hairs called cilia sweep the mucus into the back of your throat where it can be swallowed and made harmless by stomach acid. Mucus must have just the right balance of stickiness and easy flow for the filtering process to work efficiently.

Allergic reactions and infections

disrupt this balance by alerting your immune system to send extra blood cells to the lining of your nasal passages, leaving them swollen, inflamed and congested. At the same time, your nose produces extra mucus. This can overwhelm the cilia's ability to clean things out – and leave you with a stuffed-up nose or runny nose.

Breathing very dry air – especially cold winter air – will also make it hard for the cilia to work:

- The dryness can thicken mucus and clog the cilia, increasing the risk of infection as germs are not cleared out.
- Cold air also makes airways tighten up and constrict, so breathing becomes more difficult.

When you're congested, breathing through your mouth instead of your nose bypasses much of your body's natural air filtering and treatment. This can allow germs, allergens and other pollutants to get down into your lungs. It may also draw cold air into your lungs.

A Cold in the Nose

The common cold is a viral infection in the lining of your nasal passages. You may pick up germs by touching contaminated surfaces with your hands then touching your nose or eyes or by being exposed to germs from someone's cough or sneeze.

When your nose is working well, cold viruses are swept out of the nasal passages in your mucus. When it's not, they can make their way into your nasal tissue, causing infection.

Impact on Asthma

Because the connection between the nose and lungs is so important, keeping your nose healthy helps reduce asthma problems in the lungs. Sensitive airways already compromised by underlying inflammation are primed and ready to react when exposed to allergens, irritants, excess mucus or cold air that gets past your nasal filtering system.

Maintain a Healthy Nose

You can't always control the temperature or contents of the air you breathe, but you can take steps to keep your nose healthy by following these tips:

- Drink plenty of water to keep your body hydrated and mucus thin and fluid.
- Warm the air you breathe in cold weather by wearing a scarf over your nose and mouth.
- Keep nasal passages moist with saltwater nasal washes or sprays, especially if you are exposed to dry air, allergens or germs.
- Limit your use of decongestant sprays, which can damage the cilia that clear the nose and sinuses.

Discuss with your healthcare team all of your current prescription and/or over-the-counter medications, and any supplements. Could any contribute to nasal problems? For instance, diuretic blood pressure medications and some anti-anxiety medications have a drying effect on the nose and throat; birth control pills, beta-blocker blood pressure medicines and erectile dysfunction medications can increase nasal congestion; eye drops can aggravate nasal symptoms when they drain into the nose with tears.

ALLERGY MYTH

MYTH: There's nothing I can do to stop the sneezing; allergy medications just make me sleepy.

TRUTH: Nonsedating medications – including some antihistamines and nasal corticosteroids – are effective at relieving symptoms. Many people also find effective prevention and relief from nasal washes.



Understanding Allergic Rhinitis

Allergic rhinitis – nasal allergy – is one of the most common illnesses among adults and children.

When symptoms are severe, they can impact a person's quality of life and interfere with everyday activities. In children, it can affect their behavior at school and their attention span.

Allergic rhinitis is often referred to as “hay fever,” but there's no connection to hay and there's no fever.

Seasonal rhinitis

occurs in spring, summer or fall, caused by pollen from trees, grasses or weeds and mold spores.

Perennial rhinitis

is caused by indoor allergens such as dust mites, pet dander, cockroaches, rodents or mold that are present year-round. Pollen can also cause symptoms year-round if you live in a tropical environment.

Nonallergic rhinitis (vasomotor rhinitis)

occurs from irritants such as smoke, strong odors from perfume, cosmetics or laundry detergents, and air pollution. They are not allergens, but may cause allergy-like symptoms that contribute to an allergic rhinitis flare.

What are the symptoms?

Symptoms that may occur soon after exposure to an allergen:

- Runny nose with clear or pale-colored mucus
- Sneezing
- Red, watery eyes
- Itching around the nose, mouth or eyes

Untreated symptoms may worsen, leading to:

- Nasal congestion (swelling of nasal passages)
- Coughing



- Sore throat
- Headache
- Decreased sense of smell
- Ear or sinus infection
- Puffiness or dark circles under the eyes
- Fatigue

How is Allergic Rhinitis Diagnosed?

Your healthcare provider will review your medical history, including the frequency and severity of symptoms, and perform a physical examination.

Like a detective, the doctor will then search for clues to identify your allergies: Are you spending a lot of time outdoors? You may be allergic to pollen or mold. Are you living with a pet? It could be animal dander. Do you wake up at night or in the morning with an itchy nose and eyes? Likely dust mites.

To confirm the diagnosis, your doctor may recommend an allergy skin prick or blood test. A positive test reveals you are sensitized to a particular allergen. Diagnosis occurs when the history of symptoms matches the allergy test result.



Is It Nasal Allergy? Find Out For Sure

Complete the **Rhinitis Control Assessment Test (RCAT)** below and discuss the results with your healthcare provider.

NAME: _____ DATE OF BIRTH: / /

Choose the response that best describes your nasal and other allergy symptoms that are not related to a cold or the flu.

1. During the past week, how often did you have nasal congestion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5. Never	4. Rarely	3. Sometimes	2. Often	1. Extremely Often
2. During the past week, how often did you sneeze?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5. Never	4. Rarely	3. Sometimes	2. Often	1. Extremely Often
3. During the past week, how often did you have watery eyes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5. Never	4. Rarely	3. Sometimes	2. Often	1. Extremely Often
4. During the past week, to what extent did your nasal or other allergy symptoms interfere with your sleep?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5. Not at All	4. A Little	3. Somewhat	2. A Lot	1. All the Time
5. During the past week, how often did you avoid any activities (for example, visiting a house with a dog or cat, gardening) because of your nasal or other allergy symptoms?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5. Never	4. Rarely	3. Sometimes	2. Often	1. Extremely Often
6. During the past week, how well were your nasal or other allergy symptoms controlled?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5. Completely	4. Very	3. Somewhat	2. A Little	1. Not at All

Add your responses

and enter your TOTAL HERE: If your score is 21 or less, share your results with your healthcare provider.

Please answer the additional questions below and discuss the results with your healthcare provider.

Over the past 3 months, which medications have you used to treat your allergy symptoms? (Check all that apply)

Over-the-counter	Prescription	
<input type="radio"/>	<input type="radio"/>	Oral Tablets/Pills
<input type="radio"/>	<input type="radio"/>	Oral Tablets/Pills with a "D"
<input type="radio"/>	<input type="radio"/>	Nasal Sprays
<input type="radio"/>	<input type="radio"/>	Eye Drops
<input type="radio"/>	<input type="radio"/>	Other _____

If you took medication in the past 3 months for your allergies, were your allergy symptoms relieved to your satisfaction?

☐ Yes ☐ No

If "no," what medications were you taking?

(Please list all, including any over-the-counter medications and/or natural remedies)

Which medication(s) are you currently taking to help relieve your allergy symptoms?

(Please list all, including any over-the-counter medications and/or natural remedies)

How satisfied are you with your current treatment? (Check one)

☐ Very satisfied, I feel fine ☐ I'm not satisfied, I don't feel any different ☐ Somewhat satisfied, I feel okay ☐ I feel really awful

Please list all medications you are taking, including prescription or over-the-counter medicines, herbal treatments, vitamins and supplements: _____



Is It Allergy, a Cold, Flu or Sinusitis?

Have you ever had cold symptoms that lasted more than seven days? If so, were the symptoms more in line with allergies? Perhaps it's a sinus infection instead ... but how would you know?

This chart offers a clue. Talk with your healthcare professional when experiencing symptoms that don't clear up within a week.

Symptoms	Onset of Symptoms	Typical Duration
Allergies		
<ul style="list-style-type: none">• Congestion• Runny nose with thin, watery discharge• Sneezing• Weakness and fatigue	<ul style="list-style-type: none">• Symptoms begin almost immediately after exposure to allergen(s).• Seasonal allergy symptoms occur at the same time every year.• Perennial allergy symptoms are present year-round.	<ul style="list-style-type: none">• Symptoms last as long as you are exposed to the allergen(s). If the allergen is present year-round, symptoms may be chronic.
Cold		
<ul style="list-style-type: none">• Runny nose with watery-to-thick yellow discharge• Low-grade fever• Sneezing• Weakness and fatigue	<ul style="list-style-type: none">• Symptoms develop within 1-3 days of exposure to a cold virus.	<ul style="list-style-type: none">• Typically 7-10 days.
Flu		
<ul style="list-style-type: none">• Fever with chills• Headache and body aches• Cough• Sore throat• Nasal congestion and runny nose• Extreme exhaustion and weakness• Sometimes vomiting	<ul style="list-style-type: none">• Symptoms develop within 1-3 days of exposure to flu virus.	<ul style="list-style-type: none">• Typically 5-10 days.
Sinusitis		
<ul style="list-style-type: none">• Congestion• Green or gray nasal discharge• Postnasal drip• A feeling of pressure on the face• Cough• Headache• Loss of sense of smell• Tooth pain• Sometimes fever	<ul style="list-style-type: none">• Symptoms develop as a complication after a cold. Can also be triggered by allergies.	<ul style="list-style-type: none">• Can last weeks, months and even years if ignored.

Adapted from American Academy of Allergy, Asthma & Immunology



Allergy Testing

Knowing which allergens affect you puts you one step closer to reducing your symptoms, whether through avoidance, medication or other treatments such as allergy shots or tablets.

Types of allergy tests:

- **Skin prick tests** – Droplets of suspected allergens are placed on or just under the skin surface. Raised bumps (about the size of a mosquito bite) strongly indicate an allergy to that substance. Results are typically known within 20 minutes. They're the most common testing choice of allergists because of accuracy, ease of use and immediate results.
- **Blood tests** – Chemical testing detects IgE antibodies circulating in your blood that are directed at specific allergens. Lab results may take days. They are



often used for patients with skin sensitivities or medication requirements that prevent skin testing. Tests may measure specific or overall levels of IgE; some also break down common allergens and measure IgE to specific components.

The doctor will put all the evidence together – test results, your personal and family health history, home and work environments, activities that might expose you to allergens, a physical exam of your eyes, ears, nose and lungs – before reaching a diagnosis.

When It's an Irritant, Not an Allergen

In some cases, irritants are the cause of allergy-like symptoms. That means your symptoms are not an IgE-mediated allergic response and won't respond to traditional allergy treatments. Irritants can't be detected by skin or blood tests.

Common irritants include:

- Smoke, whether inhaled directly or secondhand from tobacco, wood-burning stoves or wildfires
- Strong odors such as perfume, air fresheners and scented candles
- Poor indoor air quality as a result of chemicals emitted by unvented gas stoves or other appliances
- Air pollution such as ozone or particulates
- VOCs (volatile organic compounds) emitted by some furnishings and building materials.

If these irritants are the source of your symptoms, take steps to avoid them as best you can. Keep away from areas where people smoke, ask relatives not to wear perfume at get-togethers, and stay inside on high ozone days.

ALLERGY:

Positive IgE test + symptoms

SENSITIVITY:

Positive IgE test + no symptoms

How accurate is allergy testing?

Both skin and blood tests are very accurate in showing an immune response or sensitivity to a particular allergen; however they cannot determine which allergens are actually responsible for your symptoms. And just because the test shows a response doesn't mean that you will develop symptoms when exposed to the allergen.

That's why it's important to work with a board-certified allergist who knows how to put your test results together with your personal history.

ALLERGY MYTH

MYTH: Allergy testing is not for infants.

TRUTH: Allergy testing is available for children of any age. Allergists are trained to treat people of all ages. With a patient and family history, an allergist determines which allergy tests are best for an infant or a young child.



Choosing Immunotherapy

Allergy immunotherapy helps build a patient's tolerance to allergens, reducing or eliminating symptoms. Here's how it works: the patient is given a gradually increasing amount of the allergen on a regular schedule, until a maintenance level is reached.

Tolerance for the allergen typically continues after immunotherapy ends – however the long-term success rate varies from person to person.

Immunotherapy is proven to be successful for **pollen, mold, animal dander, house dust mites, cockroach allergens** and **insect venom hypersensitivity**. It's not currently available for food or latex allergies.

In addition to reducing allergy symptoms, immunotherapy may help prevent new allergies and stop the progression of allergic diseases from rhinitis to eczema and asthma. It can also help control allergic asthma by interrupting the allergic response that sets off symptoms.

Talk with your allergist to determine if immunotherapy is right for you or your child.

Allergy Shots

Allergy shots – subcutaneous immunotherapy (SCIT) – are the most familiar form of immunotherapy. Often several different allergens can be combined in one injection, helping to build tolerance to multiple allergens at once.

Shots are administered in a board-certified allergist's office once or twice weekly. That schedule will continue for about 6-12 months, as your allergist increases the level of allergen extract in your injections until the maintenance dose is reached.

Depending on your response to therapy, your allergist may then decrease the frequency of your shots from once a week to once a month. If you are doing well after 3-5 years and no longer need most or all allergy medications, your allergist may discontinue immunotherapy.

While serious allergic reactions to allergy shots are rare, the procedure should be conducted in an allergist's office equipped with epinephrine auto-injectors in case a serious reaction, or anaphylaxis, occurs. Always remain





ALLERGY MYTH

MYTH: I only need to take my allergy medication when I'm feeling really bad.

TRUTH: Most allergy medications work best if taken daily, beginning a week or so before your specific allergy season begins.

at the doctor's office for a full 30 minutes following the injection. A reaction can happen hours later, however, so be sure to carry epinephrine auto-injectors with you.

If anaphylaxis symptoms occur – difficulty breathing, tightness in the throat, hives or swelling, nausea, vomiting, fainting, diarrhea or abdominal pain – immediately administer the epinephrine auto-injector and seek emergency treatment.

How long are allergy shots effective?

Allergy shots lead to a long-lasting reduction of symptoms for many people; others may lose their immunity at some point and choose to resume allergy shots.

If you completed allergy immunotherapy and are now experiencing difficult-to-control allergy symptoms, see your allergist for testing and treatment options. It might not be old allergies returning; it's possible you developed a new allergy, perhaps after moving or starting a job in a different environment. Age is not a barrier to starting or restarting immunotherapy.

Under-the-Tongue Tablets

Sublingual immunotherapy (SLIT) involves taking a daily allergy tablet that dissolves under the tongue. The goal is the same as an allergy shot: to boost tolerance to allergens.

SLIT tablets approved by FDA treat grass and ragweed pollens and house dust mites. Each SLIT tablet covers one type of allergen.

The first dose is administered in the doctor's office, similar to allergy shots, and then patients can take the tablets at home – but epinephrine auto-injectors must be available in case of anaphylaxis.

- Patients using SLIT tablets for grass and ragweed pollen should start taking them 3-4 months (depending on the tablet given) prior to the start of their pollen season, as well as during pollen

season, for best effectiveness. Tablets for certain grass pollens are available for children as young as 5 years old; ragweed tablets are for patients 18-65.

- Patients using SLIT tablets for house dust mites should take them year round. It can take 8-14 weeks of daily dosing to experience a noticeable benefit. The tablets are indicated for patients 18-65 years of age.

Another form of SLIT involves drops of liquid allergen extracts held under the tongue. This is still considered experimental and it's not yet approved in the United States. The treatment is typically not reimbursed by health insurance.

How are SLIT tablets administered?

Place the tablet under your tongue and hold it there without swallowing for at least a minute. After taking the tablet, you can't eat or drink anything for at least five minutes.

The tablet is highly allergenic, so it's important to wash your hands after taking it. If you rub your eyes immediately after handling the tablet, you could risk an allergic reaction.

If you're a parent giving your child a SLIT tablet at home, make sure you monitor the child for 30 minutes after administering the tablet and keep epinephrine auto-injectors close by in case of a severe allergic reaction.





Should I Treat My Allergies With Immunotherapy?

Healthcare works best with collaboration and coordination to arrive at the best care for you. This practice is called Shared Decision Making – and it benefits patients and doctors alike. Shared Decision Making encourages patients to take a more central, active role in their care by working closely with doctors to select tests and treatments together. It's evidence-based and balances risks and results with a patient's preferences and values.

What type of immunotherapy is best for me?



ALLERGY SHOTS

- You want immunotherapy to treat one or more allergies
- You do NOT fear needles
- You prefer close observation by an allergist in case of a severe allergic reaction



ALLERGY TABLETS

- You want immunotherapy to treat your one worst allergy – for either grass pollen, ragweed pollen or dust mites
- You fear needles
- You cannot commit to frequent doctor office visits

What are the side effects?



ALLERGY SHOTS

Reactions: red, itchy hives at site of injection



ALLERGY TABLETS

Reactions: itching and swelling in the mouth, sometimes cramps, nausea and diarrhea

Remember to treat any potentially life-threatening reaction with an epinephrine auto-injector, and then call 911.

What is the cost? (It will depend on your insurance plan.)



ALLERGY SHOTS

Your allergist can provide billing codes and quantities for you to check with your insurance carrier on out-of-pocket costs.



ALLERGY TABLETS

Your allergist will prescribe the tablets. Check with your insurance carrier to find out the monthly co-pay and if tablets are covered.

Take the brief quiz on the opposite page and discuss your personal preferences with your allergist.

For more information about allergen immunotherapy, use the online tool: allergyrelief.aaaai.org



Respond to the following where 1 = disagree strongly and 5 = agree strongly.

Current Approach to Treatment

I am able to control my exposure to allergens.

① ② ③ ④ ⑤

I am not concerned about allergy relief medications and their side effects.

① ② ③ ④ ⑤

I am satisfied with the relief I get from controlling my environment and using medicines.

① ② ③ ④ ⑤

My Treatment Preferences

Allergy immunotherapy shots and tablets work better than allergy relief medications alone, but require more work. "More work" makes immunotherapy less appealing to me.

① ② ③ ④ ⑤

Many people like that allergy shots and tablets make you less allergic, rather than masking the symptoms with medications. I am ok with using medicine to mask my symptoms.

① ② ③ ④ ⑤

I am not concerned about my nasal allergies developing into asthma or my asthma worsening over time.

① ② ③ ④ ⑤

Benefits of Shared Decision Making

- Improves patient outcomes and satisfaction
- Increases patient knowledge
- Improves self-management skills
- Creates more certainty, less anxiety about treatments
- Ensures follow-through on treatment plan
- Aligns with patient preferences and cultural values
- Builds a trusting relationship with the doctor

Types of Immunotherapy

I only need to treat the worst allergen causing my symptoms. The other allergens I tested positive for aren't as important to me.

① ② ③ ④ ⑤

I fear needles.

① ② ③ ④ ⑤

Getting to the doctor's office for allergy injections is a burden for me.

① ② ③ ④ ⑤

Allergy injections pose a slight risk of severe allergic reaction and need to be given in a medical facility. This risk is unacceptable to me.

① ② ③ ④ ⑤

I don't mind taking a daily tablet at home even though there's a slight risk of a severe reaction and need for epinephrine.

① ② ③ ④ ⑤

Cost Concerns

Based on my understanding of out-of-pocket costs, I am willing and able to pay for immunotherapy.

① ② ③ ④ ⑤

I have enough information to determine my costs to compare allergy shots and tablets.

① ② ③ ④ ⑤

Use the online tool:
allergyrelief.acaai.org



allergyandasthmarelief.org
allergyasthmanetwork.org

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Which Allergy Medication Is Right For You?

The wide range of allergy medicines available over-the-counter in pharmacies may seem overwhelming – but if you understand how different medications treat allergies, you're one step closer to control.

First, identify what's already in your medicine cabinet and evaluate your options. Then read labels carefully and follow dosing and safety instructions.

Talk with your pharmacist or healthcare professional about any possible side effects, especially if you're a woman who is pregnant or breastfeeding. If symptoms continue, it's time to see an allergist for help.

Antihistamines

Antihistamines are the most common medicines used to treat allergies. They are available over-the-counter and by prescription. Taken as pills, liquids, nasal sprays or eye drops, they can be used by both children and adults. Dozens of brand name and generic antihistamines are available; talk with your doctor about which is best for you.

What they do:

Block histamine, the chemical released in allergic reactions that causes many of the symptoms of allergies, including sneezing, runny nose, itchy eyes and hives.

What you need to know:

- Antihistamines can be used on an “as needed” basis because they relieve symptoms quickly, but they become more effective when used daily. Best to use them before your allergy season begins to build long-term effectiveness.
- First-generation antihistamines such as brompheniramine (Bro-max® is one brand available), chlorpheniramine (Chlor-Trimeton®) and diphenhydramine (Benadryl®) tend to make you drowsy; don't take them when you have to do any activities that require you to be alert.
- Newer antihistamines such as loratadine (Claritin®), fexofenadine (Allegra®), desloratadine (Clarinex®) and cetirizine (Zyrtec®) cause less drowsiness.
- Antihistamine eye drops can help relieve itchy, watery eyes.



Decongestants

Decongestants are available as pill, liquid, nasal spray and eye drops by prescription and over-the-counter. Some pills and liquids are held “behind the counter,” meaning they can be obtained without a prescription but are kept behind the pharmacy counter.

What they do:

Relieve congestion by shrinking blood vessels lining the nasal passage and reducing the amount of fluid that leaks into tissues lining the nose.

What you need to know:

- Nasal decongestant sprays and decongestant eye drops are for short-term use; never use for more than 3-5 days or congestion might worsen.
- Nasal decongestant sprays can irritate the inner lining of the nose and some studies show they can lead to reduced effect of the medication.



- Many decongestants are available in combinations with antihistamines and pain relievers to treat congestion, runny nose and sneezing due to seasonal allergic rhinitis, as well as cold and flu symptoms. Combination allergy medications that contain a decongestant typically have a “D” after the brand name.

Corticosteroids

Corticosteroids are a class of medications designed to prevent and soothe tissue and airway inflammation. They are available over-the-counter and by prescription as nasal sprays and eye drops.

What they do:

Treat congestion, sneezing, runny nose and irritated, watery eyes; they start working quickly, but you may not feel the full effects for several weeks.

What you need to know:

- Doctors generally recommend that you start taking these medications a few weeks before your allergy season starts, or regularly if you have year-round symptoms.
- Nasal corticosteroids are nonsedating – they won’t make you sleepy.
- If you are severely congested, you may need to use a nasal wash or take a decongestant for a few days to clear out your nose before you spray.

Leukotriene Modifiers

Montelukast (Singulair®) is a leukotriene modifier available by prescription as tablets, chewable tablets and sprinkles (for children).

What they do:

Relieve allergic rhinitis symptoms by blocking leukotrienes, chemicals involved in allergic reactions such as inflammation, swelling and constriction of airways.

What you need to know:

- Montelukast is prescribed for adults and children ages 6 months and older who are diagnosed with allergic rhinitis, eye allergy or asthma.
- Your doctor will advise you on the best time of day to take the medication. It is recommended that it be taken at the same time every day.
- Montelukast may cause side effects such as sleep disturbances and behavior or mood changes. Contact your healthcare provider if these occur.

Anticholinergics

Ipratropium bromide (Atrovent®) nasal spray is a prescription anticholinergic medication that treats seasonal allergic rhinitis and nonallergic perennial rhinitis.

What they do:

Relieve runny nose symptoms – typically when it’s a clear discharge – by reducing the formation of mucus.

What you need to know:

- Anticholinergic nasal sprays may cause nose dryness and irritation.

Mast Cell Stabilizer

Mast cell stabilizers are available as an over-the-counter nasal spray (cromolyn sodium, or Nasalcrom®) and prescription and over-the-counter eye drops.

What they do:

Prevent the release of histamine that causes inflammation. They address symptoms such as runny nose, stuffy nose, sneezing, postnasal drip and itchy eyes.

What you need to know:

- Mast cell stabilizers work best if used at least one week before your allergy season begins. They do not treat allergy symptoms that have already begun.
- The nasal spray is not designed to treat sinus infections or asthma symptoms.
- Antihistamine/mast cell stabilizer combination eye drops treat and prevent eye itching, redness, tearing and burning.

Saline Sprays

Saline sprays are saltwater solutions – **they do not contain medication**. Think of them as a moisturizer for the nose that can also cleanse the nasal membranes. They are available over-the-counter for both adults and children.

Saline sprays flush out irritated nasal passages caused by colds or allergies, or overuse of decongestant nasal sprays. They may be especially helpful in winter when the air is cold and dry.





Nasal Spray Know-How

Nasal sprays deposit allergy medication right where you need it – directly on the lining of nasal passages. This gives you maximum benefits of the medication – relieving and preventing nasal congestion, runny nose and sneezing – with minimal side effects because there’s no need to medicate your entire body just to clear up your nose.

Nasal sprays come in two basic types: traditional water-based solutions in a pump spray and waterless “dry” aerosols in canister sprays with dose counters.

Proper technique is critical to get results you need for relief from symptoms.



How to Use a Nasal Spray

- 1 Read the package insert instructions for patients before using the first time, as each medication is different. Look for information on how to prime and clean; how to hold and position the canister or pump; and whether to inhale or not.
- 2 Prime the spray as directed before the first use or if you haven’t used it in a while.
- 3 Blow your nose gently to clear out mucus before using the spray. This will allow the medicine to get up into the nasal passages. If you are severely congested, you may need a nasal wash or a decongestant for a few days to open up your nose before you spray.
- 4 Gently insert the tip of the nasal spray $\frac{1}{4}$ to $\frac{1}{2}$ inch into your nose. (It’s designed not to go too far; don’t try to push it in, and avoid touching the septum with the tip of the nasal spray.) Point it away from the center of your nose, toward your ear, ensuring the spray reaches the back of your nose and less medicine ends up on your septum (the tissue separating the two sides of your nose), which can be damaging. Try holding the spray with your left hand when applying to the right nostril, then switch for the other side.
- 5 Lean forward slightly, press and close the nostril you are not treating. If instructed, inhale gently through the other nostril as you release the spray. Some nasal sprays do not require you to inhale; others may recommend you lean your head back instead of forward.
- 6 Exhale through your mouth. Do not blow your nose for at least 15 minutes after using the spray; just wipe away any liquid that drips.
- 7 Wipe the spray tip clean after every use and replace the cap. If it becomes clogged, check your manufacturer’s instructions for cleaning, but do not use a pin or other instrument to enlarge the hole.
- 8 Keep track of the doses and priming sprays used, and replace your nasal spray after you have used the recommended number. There may be liquid left in the container after all the doses have been used, but the medication mix is not likely to be accurate.



8 Things You Need to Know About Allergy Medications

Millions of people in the United States have allergies that cause significant discomfort in their sinuses, eyes and nasal passages. For some, it's seasonal depending on what allergens are present. For others, symptoms are present year-round.

Here are some tips to help you get the most out of medicines that treat allergy symptoms.

- 1 Antihistamines are the most common medicines used to treat allergies.** They block histamine, the chemical produced and released in allergic reactions that causes many of the symptoms of allergies and hay fever.
- 2 All antihistamines start working quickly** to relieve your allergy symptoms, so you notice improvements after a couple of doses. Nonsedating antihistamines may be slightly slower to take effect, but symptom relief also lasts longer. Most people won't tell a difference in the onset of effect.
- 3 Topical nasal decongestant sprays are very effective for short-term symptom relief.** They should never be used for more than three to five days in a row; after that, they can actually increase congestion. The fancy name for this is rhinitis medicamentosa. This is not a problem with liquid or tablet decongestants.
- 4 Nasal corticosteroids are very effective for patients with nasal allergies.** Used on a daily basis, these anti-inflammatory nasal sprays relieve many symptoms of allergies, including runny nose and congestion. They can be used alone or along with antihistamines. Some are available over-the-counter (OTC), without a prescription.
- 5 For relief of mild symptoms of nasal itching and congestion, some patients benefit from a saline nose spray.** This is a mild saltwater solution (kind of like the ocean water) that can have a soothing effect when sprayed into the nose. You can think of it as a moisturizer for the nose. It also helps break up mucus in your nasal passages.
- 6 People with seasonal allergies should start using antihistamines or nasal corticosteroids before the expected allergy period to get the best results.** While some of these medications can relieve symptoms quickly, their long-term effectiveness builds up slowly. Starting medicine before an active pollen season can reduce most of the problems.

- 7 Topical nasal decongestant sprays are very effective for short-term symptom relief.** They should never be used for more than three to five days in a row; after that, they can actually increase congestion. The fancy name for this is rhinitis medicamentosa. This is not a problem with liquid or tablet decongestants.
- 8 There are products for allergies that are available only by prescriptions.** These include some oral, nasal and ophthalmic antihistamines, some nasal corticosteroids, leukotriene modifiers and desensitization products that can be placed under the tongue, which may replace allergy shots for some patients with serious allergy problems. Talk with your allergist about these products.

Written by Dennis Williams, PharmD, Associate Professor, Division of Pharmacotherapy and Experimental Therapeutics, University of North Carolina School of Pharmacy, Chapel Hill. He is a member of Allergy & Asthma Network's Board of Directors.





Sinus Health



Your nose is the gateway into a miraculous air-processing complex. When you breathe in, air swirls through your nostrils into your nasal cavity – an open space lined with folds of tissue that warm and humidify the air before it travels down into your lungs. Next to your nasal cavity, like rooms off a hallway, are your sinuses.

Sinuses become congested just like your nose does when reacting to allergens, irritants or respiratory infections – tissues become swollen and produce extra mucus. If the tiny hairs called cilia that help sweep your airways clean can't move the thick mucus out, it begins to accumulate. Trapped mucus provides a breeding ground for germs to grow. Infection sets in, causing sinus pressure and pain – otherwise known as **sinusitis**.

Sinus headache and postnasal drip are the most common complaints about sinus congestion, but other symptoms can also point to sinus problems, especially in children:

- Sore throat or constant throat-clearing
- Ear pain or infection
- Fever
- Exhaustion
- Sleep disorders like snoring, nighttime coughing or sleep apnea
- Bad breath
- Aching teeth

Tame Inflammation

Inflammation causes mucous membranes lining your nasal passages and sinuses to swell, become easily irritated and produce excess mucus – all of which put you at risk for sinus infections.

To prevent inflammation:

Minimize respiratory infections

- Stay away from people with colds and flu.
- Wash hands often and keep them out of your mouth and eyes.
- Keep your immune system at its peak with a healthy diet and exercise.
- Avoid stress.
- Get an annual flu shot.

Control allergies

- Identify what you are allergic to and take steps to reduce your exposure. See an allergist for an accurate diagnosis and a personal management plan.
- Use allergy medications as needed to control runny nose and congestion. For best results, start taking them before your allergy season begins and continue as directed.
- Consider treating hard-to-control allergies with long-term allergy treatment such as immunotherapy allergy shots or tablets.



Keep Mucus On the Move

When mucus accumulates in your sinuses, it sets the stage for infection, or sinusitis. Talk with your doctor about treatment options.

Stay away from smoke and air pollution.

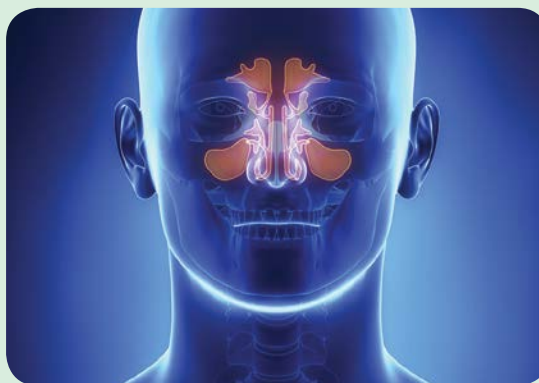
- Smoking cigarettes, cigars or pipes – or being around others who are smoking – can damage cilia and make them unable to sweep mucus efficiently.
- Ozone and other chemicals in the air can damage cilia, so keep windows closed at home, school, work and in the car on bad air quality days.

Use moisture and heat to thin mucus and reduce sinus pressure.

- Apply a warm, moist washcloth to your face, eyes and nose several times a day to soften mucus and warm the air inside your sinuses, relieving pressure.
- Drink lots of fluids to keep your sinuses (and your body) hydrated; avoid alcohol and caffeine, which can have a drying effect.
- Inhale steam to moisten and soften mucus. Do this in the shower or create your own mini-nasal-sauna by draping a towel over your head as you lean over a basin full of hot water.
- Keep nasal passages moist with saline (saltwater) sprays. Use sprays without BAC (benzalkonium chloride), a preservative that many find irritating.
- Apply moisturizing gel inside your nostrils to relieve dry nasal passages – try ones with eucalyptus, menthol or essential oils like peppermint or clove.

Shrink swollen membranes.

- Nasal corticosteroid sprays reduce inflammation and swelling caused by allergies or polyps (tissue growth that can block nasal passages). They start working quickly but take 4-5 days to reach full effect. Use daily as directed for long-term control.
- Decongestant pills, liquids and sprays reduce swelling in nasal passages, allowing mucus to flow out more easily, but they do not treat the cause of inflammation. Decongestant nasal sprays should not be used for more than 3-5 days because long-term use can actually increase congestion.



Inside the Sinuses

You have four pairs of sinuses, each pair like mirror images on either side of your face.

Ethmoid sinuses: Put your finger alongside your nose, with your fingertip just inside the corner of your eye. That fingertip is pointing to the ethmoid sinuses – a network of 5-10 small chambers that run horizontally front-to-back between the bridge of your nose and your eye sockets. These form the central drainage system for your sinuses – all the others drain through here.

Maxillary sinuses: Leaving your finger next to your nose, feel where your first finger joint hits the top of your cheekbone. That bone protects the largest set of sinuses – the maxillaries. About the size of a walnut, these chambers are connected to the nasal passages by openings at the top. They sit so close to upper teeth that maxillary infections are often mistaken for toothaches.

Frontal sinuses: Sitting behind your forehead, just above your eyebrows, are your frontal sinuses. These sinuses actually determine the shape of your eyebrow – and can cause sinus headaches.

Sphenoid sinuses: About the size of a large grape, the sphenoids sit deep within your head, just below your brain – making an infection there all the more dangerous. Some people feel the pain of sphenoid congestion at the back of their necks.

Sinuses get larger as we grow. That's one reason why sinus congestion and infection in children causes different symptoms than in adults.

Your sinuses also give sound to your voice. As hollow areas in our facial bones, sinuses operate like the soundboard on a piano or guitar, giving resonance to our voices. If you want to know what your voice would sound like without sinuses, think of how you sound when you have a sinus infection or your nose is completely congested.



All Washed Up: Clearing Congestion

Nasal washes are helpful for people of all ages who experience a lot of congestion and postnasal drip. A solution of saltwater (sodium chloride) and baking soda (sodium bicarbonate) helps shrink swollen membranes, improve airflow and open sinus passages. Studies show this baking soda mixture helps the nose

work better and moves mucus out faster than plain saltwater.

Buy premixed solution packets at pharmacies or allergy supply stores – or make your own.

Choose your rinsing device:

- flexible plastic squeeze bottles (often included in pharmacy kits)
- bulb or ear syringe (available at most pharmacies)
- large medical irrigation syringe (30cc)
- battery-powered sinus irrigator
- neti pot, which is like a teapot with a long spout

Wash, Rinse, Repeat

Fill your rinsing device with the saline solution. Stand over the sink or in the shower and squirt the mixture into your left nostril, aiming the stream toward the back of your head, not the top. Don't inhale. Tilt your head forward, touching your chin to your chest to allow excess solution to drain out of your nose. If it drains into your mouth instead, simply spit it out. Or hold a washcloth in front of you.

Repeat the process with the right nostril. Continue alternating nostrils several times until you run out of solution. If you notice a mild burning sensation in your nose, add water to your solution to reduce the



concentration of salt.

Ideally, the solution squirted into the left nostril will swirl around the back of your nose and come out the right side. Don't be surprised if nothing flows on the first try. The crusts and/or mucus plugs will soften after a few minutes, so wait a little and give it another go.

If you use a nasal corticosteroid spray, always do the nasal wash before using the spray. The medication works better and reaches deeper into the nose and sinuses when it is sprayed onto clean and decongested nasal membranes.

For children: Put the solution into a small spray container, like a saline spray bottle. Squirt it several times into each nose. The child should not lie down; it's easier and more comfortable to do when sitting or standing.



A Matter of Routine

A patient shares how nasal washes help

I dealt with chronic sinus infections for years, and Allergy & Asthma Network's resources suggested that a daily nasal wash could help.

My first attempt caught me off guard; too much water entered too quickly. Another try with a plastic squeeze bottle let me control the pressure and the volume of saline squirted much better. I've stuck with that approach ever since.

My routine now is simple. Leaning over the sink, I squirt saline into one nostril and stop when fluid flows out the other. I might bend over or rotate my head to help spread water throughout my sinuses and loosen up the gunk I need to remove. The fluid partly drains out on its own, but sometimes I need to blow out through my nose.

One rinse through each nostril usually is enough for me; several rinses for each work better when I have a sinus infection.

I recommend nasal washes for anybody with sinus congestion or infection. I do it daily as a preventive measure to help minimize those problems in the first place.

— William Flanagan
Vienna, Virginia



ALLERGY MYTH

MYTH: Moving will help cure my allergies.

TRUTH: People who have allergies may become allergic to whatever allergens are in their environment. For example, deserts may not have maple trees, but they have plenty of plants that produce pollen, such as sagebrush, cottonwood and olive trees. Relocating may offer relief for a while, but allergies to local plants could develop before long.

DIY: Nasal Wash Recipe

- 1 quart distilled water
- 2-3 teaspoon "pickling/canning" salt or Kosher salt (do not use table salt, which has unwanted additives such as iodine); use ¼ teaspoon for children.
- 1 teaspoon baking soda (sodium bicarbonate)

Carefully clean a 1-quart glass jar and fill it with distilled water. Do not boil the water. Stir in the salt and baking soda. Shake before each use.

Store the mixture no longer than a week. After a week, pour out what is left over and make a new mixture. Let your rinse device dry completely between uses to deter mold or bacterial growth.

If the mixture seems too strong, use less salt – try 1½ to 2 teaspoons of salt. For children, it is best to start with a weaker saltwater mixture, then gradually increase it to 2 to 3 teaspoons, or whatever the child will accept.





Managing Pollen And Mold



POLLEN

Minimizing contact with pollen – both outdoors and inside your home – is the first step to reducing symptoms.

- Identify which pollen causes your allergies via testing. Don't guess: A board-certified allergist can help you pinpoint what's setting off symptoms, then you can monitor pollen reports to avoid exposure. In early spring, tree pollens are most prevalent. In the late spring, grass pollens can be at their height. Limit your time outside when pollen counts are high and keep your windows closed.



Tree Tips



- Oak, maple and birch are among the most common tree allergens in the United States, as well as evergreens such as cedar and juniper.
- Mountain cedar is an early bloomer in the south – often causing allergies in December in Texas and Oklahoma. It releases so much pollen that it looks like smoke in the air.
- Some trees, like birch, only release pollen for a couple of weeks each year; others, like eucalyptus, pollinate all year long.
- When buying trees for your yard, look for species less likely to cause pollen allergies, such as crape myrtle, dogwood, pear, plum or redbud. Consider female varieties of ash, maple, poplar or willow trees.

- Time your outdoor activities to avoid allergens when possible. Airborne pollen concentrations are usually highest early in the day, just after the dew dries and on into late morning. High levels can last until late afternoon. If you must work outdoors, wear a facemask designed to filter pollen and keep it from reaching your nasal passages.
- Dry laundry indoors. Outdoor pollen from trees, grasses and plants can settle on drying clothes.
- Change clothes and remove shoes immediately after being outside to prevent pollen from spreading indoors. Bathe before going to bed; nighttime allergy symptoms can be reduced by keeping pollen off your pillow.
- Clean or replace the filters in your home ventilation system (HVAC) once a month, especially during allergy season.

MOLD



Mold needs moisture to grow. Indoors, it likes dark, wet areas; outdoors it grows in damp areas of the garden, among piles of leaves, and along foundations. Wherever it lives, mold sends tiny spores into the air where they are easily inhaled.

- Keep windows closed and limit outdoor activity when mold levels are high. Airborne molds often reach peak levels on dry, windy days when breezes pick up spores.
- Keep rain gutters free of debris, and direct rain spouts away from the house.
- Run an exhaust fan during and after showers, and make sure it is vented outside. Buy a mildew-resistant shower curtain.
- Use a dehumidifier in basements or other damp areas. If water collects in your basement, install a sump pump.
- Purchase a hygrometer at hardware stores to monitor indoor humidity, which should be kept between 30 and 50 percent throughout your home.
- Eliminate indoor molds on the spot with a bleach solution or nontoxic mix of 1T baking soda, 2T white vinegar and 1 quart of water. Keep a vigilant watch over high-humidity areas such as the bathroom, laundry room, and kitchen and clean them throughout the year. Remove shower heads and soak them in a vinegar solution to get rid of any hidden mold.



Talkin' About the Weather

Weather plays a major role in seasonal allergies, impacting how much pollen is produced and distributed at a given time. For example, pollen tends to scatter more in warm, dry and windy conditions; it doesn't circulate as much during rainy, windless days. However, rain presents its own set of allergens with mold spores.

Keeping an eye on weather forecasts, sudden changes in temperature, daily pollen counts and air quality alerts can help you anticipate when to avoid outdoor activities and reduce exposure to allergens and irritants.

Visit the National Allergy Bureau at www.aaaai.org/nab for pollen count information and the U.S. Environmental Protection Agency's www.airnow.gov for air quality alerts; both also have apps available for smartphones and tablets.

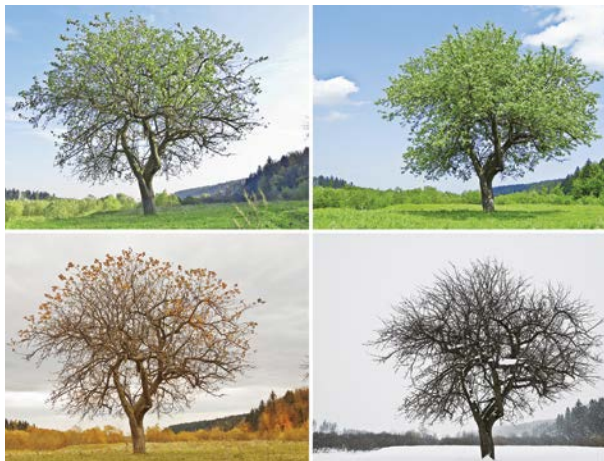
So how does the weather impact allergies?

Spring

When most people think of allergy season, they think of springtime when plants come to life and pollen and mold invade the air. Warm weather and rainfall in spring aids plant growth. Showers may offer allergy patients a break – moisture weighs down the pollen, keeping it on the ground. Depending on where you live, tree pollen levels are highest in April and May – earlier in southern and southwestern states – while grass pollen levels start to rise in late spring and early summer.

Summer

Grass pollen is at its peak from late May through early July, when dry, breezy conditions spread pollen. Thunderstorms with heavy winds can spread allergens further – especially small particles of pollen that are inhaled more easily and go deeper into the lungs.



Fall

Ragweed season begins in late summer, peaking in September and typically ending by the first frost. One of the most potent allergens, ragweed makes life miserable for many with nasal and eye allergies. Warm temperatures, reduced humidity and breezy conditions create the ideal environment for ragweed plants to release pollen.

Winter

Winter is a welcome outdoor respite if you have allergies and live in areas with cold winters. However, keep an eye on weather patterns. A mild winter can cause plants and trees to pollinate early – especially if there's a lot of rain – leading to an early start to spring allergy season. Snowmelt in late winter can also cause trees to produce more pollen, leading to more moisture as they bloom when temperatures warm in spring and a greater likelihood of mold.

Our Changing Climate

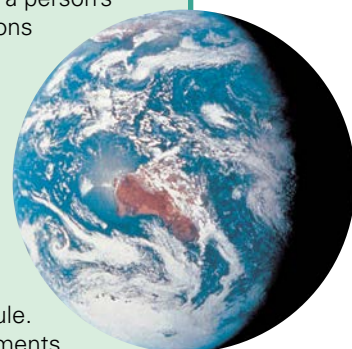
Many doctors and scientists think climate change is a factor behind a rise in allergies and the recent extreme pollen seasons in some areas of the country. Fueled by rising temperatures and milder winters, plants are blooming earlier and longer, and the extended growing season means increased levels of airborne allergens.

And there's the so-called "priming effect" caused by dramatic changes in temperatures increasingly common in early spring. During an initial warm spell, trees and grass release their first round of pollen; the

resulting first allergic reaction "primes" a person's immune system for more severe reactions later in the spring.

During longer allergy seasons with higher pollen counts, patients may find they need to use larger doses or more medication to manage symptoms.

Talk with your healthcare provider if you think the changing climate is impacting your allergy symptoms and ask whether you need to adjust your management plan or medication schedule. Find out whether immunotherapy treatments for pollen, mold or other allergens are right for you.





Easy On the Eyes

Human eyes come well armed for defense. A thin, delicate membrane called the conjunctiva forms a protective barrier over our eyeballs and inner folds of the eyelid. Tear ducts are primed to release tears to wash away foreign elements in the blink of an eye.

Since most people blink an average of 15,000 times a day, this defense system is very effective.

In a person with allergies, however, mast cells lining the conjunctiva release histamine when exposed to allergens and irritants. This inflames the conjunctiva and causes redness, irritation, itching, burning, tears, eyelid swelling, blurred vision and sensitivity to light.

It's called allergic conjunctivitis, or eye allergy.

Contact Lens Tips

Contact lenses can help keep allergens out of your eyes, but if the allergens get trapped under the lens, they can wreak havoc.

If that happens, remove your contact lenses and apply artificial tears or eye drops. Wait for about 10 minutes before reinserting your contact lenses.

Thoroughly clean your lenses daily to prevent allergen buildup or try disposable lenses that can be thrown away daily or weekly.

Many contact lens wearers prefer to use once-daily eye drops at night before going to bed (without their lenses).

If eye allergy symptoms are severe, it may be best to wear glasses instead. Consult a specialist for guidance.

In addition to environmental allergens like pollen, mold, dust mites and pet dander, irritants like cigarette smoke, cosmetics, perfume, contact lenses and contact lens solution can cause eye discomfort. Hot, dry weather often dries out the eyes and makes symptoms worse.

Seeing Clear

Since many eye allergy triggers are airborne, total avoidance is often impossible. Follow these tips to keep your eyes clear, clean and comfortable.

- Use a preservative-free eyewash or artificial tears to moisten dry, irritated eyes and help wash out allergens and irritants.
- Put a damp washcloth in the freezer for a few minutes and then apply it to your eyelids to reduce itching and swelling.
- Keep your hands away from your eyes. Wash your hands and face after being outside on high pollen and mold days.
- Never put corticosteroid drops into your eyes without having a comprehensive eye exam. It is very difficult to tell the difference between conjunctivitis caused by allergy or conjunctivitis caused by bacteria; corticosteroids can be dangerous with certain bacterial diseases. Eye allergy tends to cause clear secretions and itching, while bacterial infections usually involve yellow or greenish secretions.
- If you suspect you have eye allergies, visit a health-care professional. Preventing and treating eye symptoms may be part of your overall treatment plan.



Getting a Good Night's Sleep

Doctors sometimes use the term “allergic fatigue” to describe the tiredness and general lack of energy experienced by people with nasal allergies. Poor sleep quality plays a part in decreased productivity at work or school, impaired learning and memory, and depression.

Many factors contribute to lack of sleep, including coughing, congestion, runny nose and headaches typical of allergic rhinitis. Disruption of your body's natural sleep rhythm and continued exposure to allergens make it worse.

Exposure to outdoor allergens during the day can set off a chain reaction in your immune system that produces symptoms hours later, when you're getting ready for bed or already asleep.

In the bedroom, dust mites, pet dander, cockroach droppings, as well as the pollen and mold you unknowingly carry into your home on hair, clothes and shoes every day, can cause allergies to flare when you sleep.

Removing or minimizing allergens in the bedroom dramatically improves your quality of sleep.

Some tips:

- Cover your pillows, mattress and box spring with protective allergy-proof encasings and wash bedding once a week on a hot cycle. Use only washable rugs in the bedroom. If the carpet cannot be removed, vacuum several times a week with a HEPA (high efficiency particulate air) filter.
- Keep dogs, cats and other furry pets out of the bedroom at all times.
- Do not allow food in the bedroom, to keep cockroaches and rodents at bay.
- Wash or brush your hair before going to bed to remove pollen collected outside during the day. If that's not practical for you, wear a head-covering to bed to keep pollen off your pillow.
- Finish work or school assignments well in advance of bedtime so there's time to relax and prepare for sleep. Do not use electronic gadgets such as smartphones or tablets at least an hour before going to bed, and keep them out of the bedroom.

If you continue having problems, keep a daily sleep journal. Track your sleep schedule: how long it takes to get to sleep and how often you wake during the night.



Record your eating and exercise habits, end-of-day medications or supplements, and anything else that might impact your sleep. Share the journal with your healthcare professional and discuss if your medication schedule needs adjusting.

How Postnasal Drip Impacts Sleep

When you lie down at night, mucus from congestion or a sinus infection can block nasal passages, causing postnasal drip.

Studies show postnasal drip and congestion from allergies can cause multiple nighttime “micro-arousals.” These awakenings are so brief that you don't even remember them, but they result in lack of alertness the following day.

Find a sleep position that works best for you. Many prefer to prop their head up on pillows to minimize postnasal drip. Some studies suggest sleeping on your side helps keep the airways more open.



Pet Talk

How is it possible that our beloved pets – dogs, cats, gerbils – can also make us sneeze, cough, wheeze, tear and snuffle?

It's the protein molecules found on animal fur and skin as well as saliva and urine that cause allergic reactions. When the pet sheds its skin – called dander – these microscopic allergens hang suspended in the air for a long time and easily stick to furniture, bedding and fabrics and get into your nose, eyes and lungs.

Finding a new home for the pet is the most effective way to reduce levels of pet allergens in the home. That's a difficult choice for most adults and children with an emotional attachment to their animal. For pet-allergic families who insist on keeping their pets, the following recommendations can help:

- Restrict pets to one area of the home when inside.
- Always keep pets out of the bedroom.
- It's extremely difficult to remove pet allergens that may have gotten into mattresses, box springs and pillows, so cover beds and pillows with allergen-proof encasings.
- Use a HEPA-filter vacuum daily, especially in rooms where the person with pet allergies spends the most time. Consider a HEPA air cleaner for the bedroom.
- Replace carpets, upholstered furniture, heavy drapes and other allergen and dust collectors with hardwood floors or washable furnishings. Focus on the bedroom – even though you don't allow your pet in this room, animal allergens can still travel through air and on your clothes.



Misconceptions About Pet Allergies

FACT OR FICTION?

Some breeds of cats and dogs will not cause allergy symptoms.

Fiction

There is no breed that is hypoallergenic or can promise to be best for people with pet allergies.

FACT OR FICTION?

Washing your cat or dog regularly will significantly reduce the level of allergens in the home.

Fiction

Studies are conflicting, showing either no change or a short-lived improvement. The current opinion is the benefits of washing are so temporary that it is unlikely to be worth the effort or distress to the pet.

FACT OR FICTION?

Find a new home for your pet and your pet allergy symptoms will soon disappear.

Fiction

Once the cat or dog is removed from the home, symptoms may not improve for weeks or even months, as allergen levels fall quite slowly. Professional cleaning may help, and you can speed things along by making extensive environmental changes, such as removing carpets and upholstered furniture.

FACT OR FICTION?

Immunotherapy, or allergy shots, makes it possible for pet lovers to keep their pets.

Fact

Allergen immunotherapy can greatly reduce sensitivity to airborne allergens such as pet dander and dust mites. However, the success rate does vary from person to person. Talk with your doctor about whether immunotherapy is right for you.



Keep the Creepy-Crawlies Out

Dust mites and cockroaches are common indoor pests and a leading cause of asthma and allergy symptoms. Take steps to eliminate them from your home with family-friendly tips:

DUST MITES



Dust mites are invisible to the naked eye – you can fit about 50 on the head of a pin. How do you get rid of something too small to see?

- **Hang 'Em Out to Dry.** Dust mites need two things to live: water (drawn from humid air) and food (your skin). You can't do much about skin you shed each day, but you can adjust the humidity in your home. Control humidity with exhaust fans, dehumidifiers and air conditioning. Keep humidity at 30-50 percent.
- **Nix the Nests.** Removing carpets, drapes, upholstered furniture and horizontal blinds will eliminate dust mite homes and minimize dusty areas that collect allergens. Focus on rooms where you spend the most time, such as bedrooms.
- **Put Up Barriers.** Cover mattresses and pillows to prevent dust mite allergens lodged inside your bedding from getting into your airways – they can't get through tightly woven encasings.

COCKROACHES



Hundreds of cockroaches may live in a colony. If you see one, it's a safe bet that more are lurking out of sight. Minor home improvements can improve your chances of keeping cockroaches out.

- **Do It Yourself.** Caulk cracks or gaps around piping, fix water leaks and improve ventilation to damp areas.
- **Keep a Lid on Food.** Store food in airtight containers or in the refrigerator. Minimize trash kept inside the house, wash dishes immediately after you use them, and eliminate piles of newspapers and magazines that are hiding spots. Rinse bottles and cans before you toss them in your recycling bin and take out recycling at least once a week.
- **Make a Clean Sweep.** If you have an infestation, you may need aggressive cleaning to get rid of their allergens. Ordinary household cleaners are usually very effective.



Indoor Air Cleaner Basics

Cleaning up indoor air is a multi-step process that begins with attacking the source of the allergen, whether it's mold, dust mites, pet dander or insects. The next step might be an air cleaner or filter.

The effectiveness of an air cleaner depends on how much air it pulls through the machine and how well it removes particles that pass through it. The air cleaner won't grab dust mites or pollen trapped in your carpet, dander from pets on your bed, or smoke particles in your drapes.

Consider the choices:

Mechanical air cleaners use flat or pleated-surface filters to sift particles out of the air. Look for HEPA (high efficiency particulate air) filters for best results.

Electronic air cleaners use an electric field to trap charged particles on a washable collector plate.

Ion generators use a static charge to remove particles from the air, charging them so they will stick to nearby surfaces such as walls, floors and draperies or attach to one another and settle out of the air.

Do not buy ozone-generating air purifiers. According to EPA, ozone is a respiratory irritant and may actually worsen allergies and asthma.

Before You Buy

- **Room size:** Measure the size of the room, then find an air cleaner to fit your needs.
- **Noise:** Try it out at the store or make sure you can return it if the noise level is disturbing at home.
- **Ease of use:** Is the filter difficult to replace without releasing particles back in your air? Is the air cleaner light enough for you to move?
- **Odor:** If the cleaner has a separate filter for smoke and odors, check the ingredients – zeolite or activated alumina may be less irritating to sensitive airways than activated charcoal, which can be dusty.
- **Cost:** Check the price of replacement filters and how frequently they need to be changed. Add in shipping costs if filters are not available locally.
- **Guarantee:** Look for companies that offer a money-back return policy and read the fine print on the contract.

ALLERGY MYTH

MYTH: All I need to control my allergies is an air cleaner.

FACT: An air cleaner or purifier will only help remove allergens floating in the air; it does nothing for pollen on your clothes or in your hair, dust mites in your pillow, or pet dander on your couch.

What is HEPA?

A HEPA (high efficiency particulate air) rating indicates filters will remove at least 99.97 percent of airborne particulates that are 0.3 microns in size or larger. That includes many of the particles affecting people with allergies and asthma, such as pet allergens, pollen, mold spores and bacteria.

Look for air cleaners labeled “True HEPA” or “Genuine HEPA filtration”; filters labeled “HEPA-like” aren't the real thing.



WEBSITES

Allergy & Asthma Network

AllergyAsthmaNetwork.org

American Academy of Allergy, Asthma & Immunology

aaaai.org

American College of Allergy, Asthma & Immunology

acaai.org

Centers for Disease Control and Prevention

cdc.gov/healthyhomes/bytopic/airquality.html

Environmental Protection Agency

epa.gov/indoor-air-quality-iaq

National Jewish Health

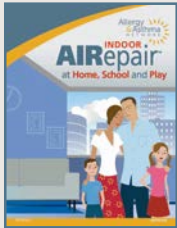
nationaljewish.org/healthinfo/conditions/allergy

National Library of Medicine

nlm.nih.gov/medlineplus/allergy.html

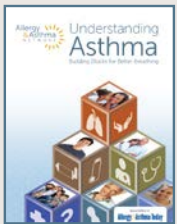
PUBLICATIONS

Available in English and Spanish

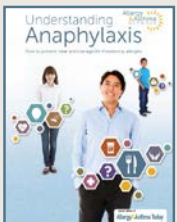


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AllergyAsthmaNetwork.org
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Your Allergy Quiz

1) True or False: Allergic reactions happen immediately upon exposure to an allergen.

True False

2) Left untreated, nasal and eye allergies can lead to which of the following:

- A) Sinus infection (sinusitis)
- B) Eye inflammation
- C) Asthma flare (if diagnosed with asthma)
- D) Ear infection
- E) All of the above

3) True or False: Allergen immunotherapy builds tolerance to allergens by introducing the allergen into a patient's immune system.

True False

4) When using a nasal spray to treat allergies, how should you direct the spray?

- A) Away from the center of the nose, toward your ear
- B) Straight up into your nose
- C) Toward your nose

5) True or False: All you need to control allergens in your bedroom is an air cleaner.

True False

Answers: 1) False: allergic reactions can happen within minutes of exposure or be delayed for hours; 2) E; 3) True; 4) A; 5) False: an air cleaner only removes allergens that pass through it; it will not remove particles that have settled in mattresses, pillows and carpets.

What are your environmental allergy triggers?

- A) Grass pollen
- B) Mold
- C) Pet dander
- D) Tree pollen
- E) Dust mites
- F) Ragweed pollen
- G) Cockroaches and other pests

*Don't know? Schedule an appointment
with your allergist to be tested*



Breathe Better Together!

Allergy & Asthma Network engages, educates and empowers families to win over allergies and asthma.

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