



Allergy and Allergic Rhinitis



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What Is Allergy?

Allergy is defined as hypersensitivity to certain plants, foods, or other common substances. This hypersensitivity causes the body to overreact when exposed to these substances, which are called allergens. What distinguishes truly allergic people is their ability to form a type of antibody (immunoglobulin E or IgE) which causes cells to release histamine, prostaglandins, and leukotrienes. These substances are normal body chemicals which can cause a runny nose, sneezing, wheezing, and itching. When the allergic person comes into contact with anything that he or she is allergic to, the interaction between the allergen and IgE causes the release of histamine and other substances and thus, the symptoms that we know as allergic (runny nose, sneezing, itching, and wheezing). There are several allergic diseases. The most common is allergic rhinitis (hay fever), followed by asthma, eczema, food allergy, allergic conjunctivitis, and drug allergy.

Who Gets Allergies?

It is estimated that 20% of the population has allergic disease. Although anyone can acquire allergies, those with a family history of them are more likely to experience allergic reactions. Allergies can first appear at any age. Half of the people with allergies develop them before age 20.

What Causes Chronic Nasal/Sinus Congestion?

I. Allergic Rhinitis

Although allergic reactions occur anywhere in the body, the two basic kinds of allergies are respiratory and skin allergies. Allergic rhinitis (stuffy, watery nose) is a common form of respiratory allergy. This problem is also known as hay fever.

When allergic rhinitis occurs on a seasonal basis, it is usually related to outdoor allergens such as grass, tree, or weed pollen. Allergic rhinitis that occurs on a more year-round basis is usually related to indoor allergens such as dust, dust mite, pet dander or saliva, and mold. The symptoms of allergic rhinitis include sneezing, runny or stuffy nose, itchy or watery eyes, and burning or scratchy throat. Control of these symptoms may be helped by:



1. Avoidance of the allergen.
2. Air conditioners or air purifiers (HEPA filters).
3. Antihistamine medication (Claritin® [loratadine], Clarinex® [desloratadine], Allegra® [fexofenadine], Zyrtec® [cetirizine], Astelin® [azelastine]). Antihistamines work by blocking the effects of histamine. Antihistamines are often combined with oral decongestants like Sudafed® (pseudoephedrine).
4. Nasal sprays (anti-inflammatory): Corticosteroid (Nasacort® [triamcinolone], Nasonex® [mometasone], Flonase® or Veramyst® [fluticasone], Rhinocort® [budesonide], Nasalcrom® [cromolyn]).
5. Leukotriene modifiers (Singulair® [montelukast], Accolate® [zafirlukast], and Zflo® [zileuton]).
6. Treatment with allergy injections (immunotherapy).

II. Vasomotor Rhinitis

Another cause of a chronically congested or stuffy nose is vasomotor rhinitis. In this condition, the lining of the nose overreacts to inhaled irritants such as smoke, aerosols, chemical sprays, or pollution. The blood vessels in the nose enlarge and cause swelling and obstruction. Breathing through the nose becomes difficult. It is unclear whether vasomotor rhinitis leads to recurrent sinus or ear infections.

Vasomotor rhinitis is distinguished from allergic rhinitis by the absence of positive allergy tests. The discomfort from vasomotor rhinitis may be helped by:

1. Avoiding irritants.
2. Environmental controls: Maintaining a smoke-free house and avoiding exposure to aerosols or other chemicals.
3. Decongestant medications: These give relief by reducing swelling in the nose.
4. Corticosteroid nasal sprays decrease nasal airway inflammation.



5. Astelin® (azelastine) is an antihistamine given as a nasal spray that can treat both allergic rhinitis and vasomotor rhinitis in patients older than 12.

III. Chronic Sinusitis

Sinus infections are a common complication from both allergic and vasomotor rhinitis. The sinus openings are blocked, causing increased pressure and pain. Because of the blockage, the sinuses cannot drain properly. This causes a buildup of mucus, which contributes to the development of infection. When this happens, antibiotic treatment is necessary.

How Are Allergies Diagnosed?

A careful and thorough history and physical examination are essential to the proper diagnosis of allergic disease. An allergy test is also conducted. The scratch or prick test involves placing a small amount of suspected allergens on the skin of the arm or back, and then pricking or scratching the skin. The skin reaction over the next 15 to 20 minutes is then observed. A red, itchy swelling is considered a positive reaction. Intradermal tests are performed when prick test results are negative. Intradermal tests are more sensitive but less specific than prick tests and are performed by injecting allergen under the skin. The reaction is then monitored over the next 15 to 20 minutes.

As with any testing, false results or unexpected reactions are possible. Although these tests prove that the patient is sensitive to allergens, they do not prove that allergies are causing the symptoms. A laboratory method is now available to confirm the presence or absence of the IgE antibody to almost any allergen. This special test, called a specific IgE test, may be needed if the results of the skin tests are inconclusive.

Possible Treatments

There are multiple options for the treatment of allergic problems.

1. Avoidance and removal of the substances that cause problems is the best treatment. However, this is not always practical or possible.
2. Antihistamine medications block the effects of histamine and provide effective symptomatic treatment when taken early and regularly. Antihistamines are useful for symptoms of allergic rhinitis (runny nose), urticaria due to allergy (hives), sneezing, and itchy, watery eyes. They are NOT effective for asthma of any kind. Drowsiness or hyperactivity can be



frequent adverse effects of many antihistamines, particularly the older-generation drugs. This effect may disappear after a few days of use. Antihistamines are divided into subgroups. When an antihistamine of one group does not seem to be working well, a trial of an antihistamine from another subgroup may give better results. Newer, second-generation antihistamines are usually preferred because they are non-sedating or minimally sedating.

3. Decongestants can help relieve runny and stuffy nose and ear congestion, and reduce swelling of the nasal mucosa. Decongestants do not help allergy symptoms of sneezing, itchy eyes, or hives. Both topical and oral decongestants may be used. Topical nasal sprays and drops may produce a rebound increase in symptoms if overused (more than 3 to 4 days in a row). Decongestants may cause restlessness, insomnia, and rapid heart rate. Therefore, they should be avoided by patients with noted high blood pressure or cardiac arrhythmias (irregular heart beat).
4. Corticosteroids: Inhaled nasal steroids are useful to help reduce swelling and stabilize the nasal mucosa. The sprays should be used on a regular basis. Nasal steroids take about one week for maximal effectiveness but are more effective than antihistamines.
5. Nasalcrom[®](cromolyn): This drug may be useful for blocking allergic reactions and stabilizing the tissue. In most cases, it must be initially used on a very regular basis and then may be tapered, per care provider directions.
6. Leukotriene modifiers work by blocking leukotrienes—the body chemicals responsible for allergy symptoms—or by inhibiting their synthesis. Drugs in this category include Singulair[®] (montelukast), Zylflo[®] (zileuton), and Accolate[®] (zafirlukast).
7. Antihistamine nasal sprays prevent the local effects of histamine in the nasal airway. The onset of action is rapid but the long-term effects of reduced tissue swelling seen with corticosteroids and cromolyn are not present.
8. Anticholinergic nasal spray, such as Atrovent[®] (ipratropium bromide) is particularly helpful for patients who have significant watery nasal discharge and nasal airway congestion. When symptoms are caused by viruses, cold air (skiers' nose), temperature change, air pollution, and eating, anticholinergic sprays are useful.



9. Allergy immunotherapy can provide long-lasting relief. A series of weekly injections with the specific allergens gradually stimulates tolerance. If allergy injections are recommended, an additional information sheet will be provided.

Final Word

Since true allergy *can be* a lifelong and variable condition, successful treatment depends upon mutual cooperation between physician and patient. No cure exists for allergies, but great strides have been made in controlling and improving allergic symptoms. We encourage you to ask questions concerning your symptoms or treatment program.