

ALLERGIC REACTIONS

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Allergies often bring to mind sneezing, a runny nose or watery eyes. While these are symptoms of some types of allergic disease, it's important to understand that an allergic reaction is actually a result of a chain reaction that begins in your genes and is expressed by your immune system.

What is happening inside your body when you have an allergic reaction? Read on to find out.



The Immune System

Your **immune system** controls how your body defends itself. For instance, if you have an allergy to pollen, your immune system identifies pollen as an invader or allergen. Your immune system overreacts by producing antibodies called Immunoglobulin E (IgE). These antibodies travel to cells that release chemicals, causing an allergic reaction. This reaction usually causes symptoms in the nose, lungs, throat, sinuses, ears, lining of the stomach or on the skin.

Each type of IgE has specific "radar" for each type of allergen. That's why some people are only allergic to cat dander (they only have the IgE antibodies specific to cat dander); while others have allergic reactions to multiple allergens because they have many more types of IgE antibodies.

It is not yet fully understood why some substances trigger allergies and others do not, nor why some people have allergic reactions while others do not. A family history of allergies is the single most

important factor that puts you at risk of developing allergic disease.

Types of Allergic Disease

Approximately 50 million Americans suffer from some form of allergic disease, and the number is increasing. There are several types of allergic disease, which will be covered briefly here, but you can learn more about each one by visiting the **Conditions & Treatments** section of the AAAAI website.

Allergic rhinitis may be seasonal or year-round. Seasonal allergic rhinitis, often called "hay fever," typically occurs in the spring, summer or fall. Symptoms include sneezing, stuffy or runny nose and itching in the nose, eyes or on the roof of the mouth. When the symptoms are year-round, they may be caused by exposure to indoor allergens such as dust mites, indoor molds or pets.

Urticaria, or hives, is characterized by itchy, red bumps that can occur in clumps and be either large or small. Hives are often triggered by certain foods or medications.

Allergic conjunctivitis, or eye allergy, occurs when the eyes react to allergens with symptoms of reddening, itching and swelling. Atopic dermatitis, or eczema, often results from an allergen being exposed to your skin. Symptoms include itching, reddening and flaking or peeling of the skin. Symptoms begin in childhood for 80% of those with atopic dermatitis. Over 50% of those with atopic dermatitis also develop asthma.

Asthma is a chronic lung disease characterized by coughing, chest tightness, shortness of breath and wheezing. When you experience asthma symptoms, your inflamed airways become narrowed, making it more difficult to breathe. Up to 78% of those with asthma also have allergic rhinitis. If you have allergies, inhaling allergens may cause increased swelling of your airway lining and further narrowing of your air passages. Asthma may also worsen as a result of respiratory tract infections or exposure to irritants like tobacco smoke.

If you have a food allergy, your immune system overreacts to a particular protein found in that food. Symptoms can occur when coming in contact with just a tiny amount of the food. The most common triggers are the proteins in cow's milk, eggs, peanuts, wheat, soy, fish, shellfish and tree nuts.

If you have nasal congestion, facial pressure, cough and thick nasal discharge, you may have rhinosinusitis, which is commonly referred to as sinusitis. Sinusitis is a swelling of the sinuses, which are hollow cavities within the cheek bones around your eyes and behind your nose. People with allergic rhinitis or asthma are more likely to suffer from chronic sinusitis. This is because the airways

are more likely to become inflamed when allergic rhinitis or asthma is present.

Severe Allergic Reactions

Anaphylaxis (an-a-fi-LAK-sis) is a serious, life-threatening allergic reaction. The most common anaphylactic reactions are to foods, insect stings, medications and latex.

Anaphylaxis typically affects more than one part of the body at the same time. Symptoms include a feeling of warmth, flushing, a red, itchy rash, feelings of light-headedness, shortness of breath, throat tightness, anxiety, pain/cramps and/or vomiting and diarrhea. In severe cases, you may experience a drop in blood pressure that results in a loss of consciousness and shock.

Anaphylaxis requires immediate medical treatment, including an injection of epinephrine and a trip to a hospital emergency room. If it is not treated properly, anaphylaxis can be fatal.

Diagnosing and Treating Allergic Reactions

An allergist / immunologist, often referred to as an allergist, is best qualified to treat allergic diseases. To determine if you have an allergy, your allergist will take a thorough medical history and do a physical exam. He or she may perform allergy skin testing, or sometimes blood testing, to determine which substance is causing your allergy.

Once your allergy triggers are identified, your allergist can help you establish a treatment plan that is right for you. In many instances, allergy immunotherapy in the form of shots or tablets is an effective, cost-efficient long term treatment approach.

While there is not yet a cure for allergic disease, your allergist can properly diagnose the problem and develop a plan to help you feel better and live better.

Healthy Tips

- Allergy symptoms are the result of a chain reaction that starts in your immune system.
- If you have a family history of allergies, you are at a much higher risk of developing allergic disease.
- The types of allergic disease include allergic rhinitis (hay fever), eczema, hives, asthma and food allergy.
- Food, medications, insect stings and exposure to latex can trigger anaphylaxis, which is a serious allergic reaction that happens very quickly and in some instances may be fatal. If you (or anyone you are with) begin to show the symptoms of anaphylaxis, call for medical help to get to the closest

emergency room.

- Talk to your allergist about the many treatments available to help you feel better.

Feel Better. Live Better.

An allergist / immunologist, often referred to as an allergist, is a pediatrician or internist with at least two additional years of specialized training in the diagnosis and treatment of problems such as allergies, asthma, autoimmune diseases and the evaluation and treatment of patients with recurrent infections, such as immunodeficiency diseases.

The right care can make the difference between suffering with an allergic disease and feeling better. By visiting an allergist, you can expect an accurate diagnosis, a treatment plan that works and educational information to help you manage your disease.

The AAAAI's **Find an Allergist / Immunologist** service is a trusted resource to help you find a specialist close to home.

Video: What is an allergic reaction? »

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Medical content developed and reviewed by the leading experts in allergy, asthma and immunology.

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