

## **Allergy-Immunology Glossary**

Here are definitions of some of the words frequently encountered in literature on allergy and asthma.

### **Allergy**

Allergies are inappropriate or exaggerated reactions of the immune system to substances that, in the majority of people, cause no symptoms. Symptoms of the allergic diseases may be caused by exposure of the skin to a chemical, of the respiratory system to particles of dust or pollen (or other substances), or of the stomach and intestines to a particular food.

### **Anaphylaxis**

Anaphylaxis, or anaphylactic shock, is a severe, frightening and life-threatening allergic reaction. The reaction, although rare, can occur after an insect sting or as a reaction to an injected drug — for example, penicillin or anti-tetanus (horse) serum. Less commonly, the reaction occurs after a particular food or drug has been taken by mouth.

### **Antibody**

An antibody is a protein (also called an immunoglobulin) that is manufactured by lymphocytes (a type of white blood cell) to neutralize an antigen or foreign protein. Bacteria, viruses and other microorganisms commonly contain many antigens, as do pollens, dust mites, molds, foods and other substances. Although many types of antibodies are protective, inappropriate or excessive formation of antibodies may lead to illness. When the body forms a type of antibody called IgE (immunoglobulin E), allergic rhinitis, asthma or eczema may result when the patient is again exposed to the substance which caused IgE antibody formation (allergen).

### **Antigen**

An antigen is a substance that can trigger an immune response, resulting in production of an antibody as part of the body's defense against infection and disease. Many antigens are foreign proteins (those not found naturally in the body). An allergen is a special type of antigen which causes an IgE antibody response.

### **Antihistamine drugs**

Antihistamines are a group of drugs that block the effects of histamine, a chemical released in body fluids during an allergic reaction. In rhinitis, antihistamines reduce itching, sneezing and runny nose.

### **Anti-inflammatory drugs**

Anti-inflammatory drugs reduce the symptoms and signs of inflammation. Although not a drug, immunotherapy ("allergy shots") reduces inflammation in both allergic rhinitis and allergic asthma.

### **Asthma**

Asthma is a chronic, inflammatory lung disease characterized by recurrent breathing problems. People with asthma have acute episodes when the air passages in their lungs get narrower, and breathing becomes more difficult. Sometimes episodes of asthma are triggered by allergens, although infection, exercise, cold air and other factors are also important triggers.

### **Bronchitis**

Bronchitis is an inflammation of the bronchi (lung airways), resulting in persistent cough that produces considerable quantities of sputum (phlegm). Bronchitis is more common in smokers and in areas with high atmospheric pollution.

**Bronchodilator drugs**

Bronchodilators are a group of drugs that widen the airways in the lungs.

**Bronchus**

Any of the larger air passages that connect the trachea (windpipe) to the lungs. The plural form of "bronchus" as "bronchi."

**Contact dermatitis**

Contact dermatitis is an inflammation of the skin or a rash caused by contact with various substances of a chemical, animal or vegetable nature. The reaction may be an immunologic response or a direct toxic effect of the substance. Among the more common causes of a contact dermatitis reaction are detergents left on washed clothes, nickel (in watch straps, bracelets and necklaces, and the fastenings on underclothes), chemicals in rubber gloves and condoms, certain cosmetics, plants such as poison ivy, and topical medications.

**Corticosteroid drugs**

Corticosteroids are a group of anti-inflammatory drugs similar to the natural corticosteroid hormones produced by the cortex of the adrenal glands. Among the disorders that often improve with corticosteroid treatment include asthma, allergic rhinitis, eczema and rheumatoid arthritis.

**Digestive system**

The digestive system is the group of organs that breaks down food into chemical components that the body can absorb and use for energy and for building and repairing cells and tissues.

**Eczema**

An inflammation of the skin, usually causing itching and sometimes accompanied by crusting, scaling or blisters. A type of eczema often made worse by allergen exposure is termed "atopic dermatitis."

**Epinephrine**

Epinephrine is a naturally occurring hormone, also called adrenaline. It is one of two chemicals (the other is norepinephrine) released by the adrenal gland. Epinephrine increases the speed and force of heart beats and thereby the work that can be done by the heart. It dilates the airways to improve breathing and narrows blood vessels in the skin and intestine so that an increased flow of blood reaches the muscles and allows them to cope with the demands of exercise. Epinephrine has been produced synthetically as a drug since 1900. It remains the drug of choice for treatment of anaphylaxis.

**Extrinsic asthma**

Extrinsic asthma is asthma that is triggered by an allergic reaction, usually something that is inhaled.

**Hay fever**

See [Rhinitis](#).

**Histamine**

Histamine is a chemical present in cells throughout the body that is released during an allergic reaction. Histamine is one of the substances responsible for the symptoms on inflammation and is the major reason for running of the nose, sneezing and itching in allergic rhinitis. It also stimulates production of acid by the stomach and narrows the bronchi or airways in the lungs.

**Hives**

See [Urticaria](#).

**Immune system**

The immune system is a collection of cells and proteins that works to protect the body from potentially harmful, infectious microorganisms (microscopic life- forms), such as bacteria, viruses and fungi. The immune system plays a

role in the control of cancer and other diseases, but also is the culprit in the phenomena of allergies, hypersensitivity and the rejection of transplanted organs, tissues and medical implants.

### **Immunoglobulins**

Immunoglobulins, also known as antibodies, are proteins found in blood and in tissue fluids. Immunoglobulins are produced by cells of the immune system called B-lymphocytes. Their function is to bind to substances in the body that are recognized as foreign antigens (often proteins on the surface of bacteria and viruses). This binding is a crucial event in the destruction of the microorganisms that bear the antigens. Immunoglobulins also play a central role in allergies when they bind to antigens that are not necessarily a threat to health and provoke an inflammatory reaction.

### **Immunotherapy**

Immunotherapy ("allergy shots") is a form of preventive and anti-inflammatory treatment of allergy to substances such as pollens, house dust mites, fungi and stinging insect venom. Immunotherapy involves giving gradually increasing doses of the substance, or allergen, to which the person is allergic. The incremental increases of the allergen cause the immune system to become less sensitive to the substance, perhaps by causing production of a particular "blocking" antibody, which reduces the symptoms of allergy when the substances is encountered in the future.

### **Inflammation**

Inflammation is the redness, swelling, heat and pain in a tissue due to chemical or physical injury, or to infection. It is a characteristic of allergic reactions in the nose, lungs and skin.

### **Intrinsic asthma**

Intrinsic asthma is asthma that has no apparent external cause.

### **Lymphocyte**

A lymphocyte is any of a group of white blood cells of crucial importance to the adaptive part of the body's immune system. The adaptive portion of the immune system mounts a tailor-made defense when dangerous invading organisms penetrate the body's general defenses.

### **Mast cell**

Mast cells play an important role in the body's allergic response. Mast cells are present in most body tissues, but are particularly numerous in connective tissue, such as the dermis (innermost layer) of skin. In an allergic response, an allergen stimulates the release of antibodies, which attach themselves to mast cells. Following subsequent allergen exposure, the mast cells release substances such as histamine (a chemical responsible for allergic symptoms) into the tissue.

### **RAST**

RAST is an abbreviation for RadioAllergoSorbent Test, a trademark of Pharmacia Diagnostics, which originated the test. RAST is a laboratory test used to detect IgE antibodies to specific allergens.

### **Respiratory system**

The respiratory system is the group of organs responsible for carrying oxygen from the air to the bloodstream and for expelling the waste product carbon dioxide.

### **Rhinitis**

Rhinitis is an inflammation of the mucous membrane that lines the nose, often due to an allergy to pollen, dust or other airborne substances. Seasonal allergic rhinitis also is known as "hay fever," a disorder which causes sneezing, itching, a runny nose and nasal congestion.

**Sinus**

The sinuses (paranasal sinuses) are air cavities within the facial bones. They are lined by mucous membranes similar to those in other parts of the airways.

**Sinusitis**

Sinusitis is inflammation of the membrane lining the facial sinuses, often caused by bacterial or viral infection.

**Urticaria**

Urticaria is a skin condition, common known as hives, characterized by the development of itchy, raised white lumps surrounded by an area of red inflammation.

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