

HEALTH SYMPTOMS DUE TO MOLDS

To best appreciate the relationship between molds and public health, one must first have an understanding of the human immune system and allergies.

In the United States, more than 50 million people—one out of five, or twenty percent of the population—suffer from asthma or allergies. According to the Asthma & Allergy Foundation of America (AAFA), allergies are the sixth leading cause of chronic disease in the United States, costing the health care system \$18 billion annually. The AAFA states that hay fever has increased substantially over the past fifteen years with about 16.7 million yearly visits to health care providers, due to allergic rhinitis.

There are over 200 known indoor pollutants in the average house, with some being the source of the increase in allergies. (In the last few years, indoor pollutants have been found to be two to five times higher—sometimes 100 times higher— than outdoors.) The Environmental Protection Agency (EPA) ranks indoor pollution as one of the country's top environmental health risks.

An allergy is a hypersensitive reaction to a substance, harmless to most people but is perceived by some individual's systems as possibly dangerous. Those substances are called allergens. Certain foods such as peanuts, perfumes, soaps, chemicals, etc., can affect a person sensitive to them. Allergens, or triggers; cause the body to defend itself by producing antibodies. It is the antibodies defense/reactions that cause an allergy's irritating symptoms. An antibody is a disease-fighting protein called immunoglobulin E or IgE. Everybody has a specific IgE for each allergen. For example, one will be produced to react against mold, another to react against ragweed.

The first time an allergy prone individual is exposed to an allergen, the body produces large amounts of antibodies for that specific allergen. The IgE molecules stick to the surfaces of the abundant mast cells (cells that line the respiratory and gastrointestinal tract and skin) or basophiles (circulating white blood cells). The IgE molecules circulate in the blood or remain with certain cells where they specifically counteract the invader. The next encounter with the same allergen, usually leads to an even greater reaction as the antibodies signal the mast cells and basophiles to flood the area

with histamines and other chemicals. Histamines are body chemicals that can act as irritants. As histamine prepares for an attack, it inflames the surrounding tissues (nasal passages, sinuses, and eyelids), and the individual experiences typical allergy symptoms such as sneezing, itchy eyes, and runny nose.

Individuals may have family histories of allergies, but even if this is not the case, they may react to certain environmental triggers. Individuals from families in which both parents have allergies have a fifty percent chance of inheriting them. If only one parent has allergies, an individual has a thirty percent chance of having allergies. Hay fever and asthma are the most commonly inherited allergies.

One can react to many triggers indoors or out. Common indoor triggers are pet dander, feathers, dust mites, cockroach droppings, cleaning chemicals, aerosol sprays, latex, metals, tobacco smoke, milk, wheat, eggs, shellfish, chocolate, food additives, medications, and molds.

Common outdoor triggers include pollen, weeds, insect bites, insecticides, paint fumes, exhaust, pollution, smoke, cold air, exercise, and molds. With mold spores everywhere in the environment, they are impossible to avoid, and

are one of the causes of chronic allergic rhinitis (along with dust mites and animal dander).

Anyone can develop an allergy anytime in life. Allergies can develop suddenly, or evolve over a period of years. Triggers can be year-round or seasonal.

When someone with allergic tendencies encounters an allergen, the body reacts to it as if fighting a bacteria or virus. The immune system's job is to protect the body from harmful invaders that can harm it by destroying or neutralizing them.

In today's world, bodies are having a tough time keeping healthy, and it makes it harder when an individual is going through physical or emotional stress. Day-to-day lifestyles, including what is put into the body, keep the antibodies working 24 /7. Allergens may attack your body by land (touch), sea (swallowed), or air (inhaled). Immune systems are very vigilant in their reactions to search, identify, and destroy.

If a person is not allergic to these triggers the mucous in the nasal passages simply moves the alien particles into the throat so that they can either be swallowed or coughed and spat out. Children are more susceptible to airborne pollutants because their lungs are still developing, and because they breathe at a faster rate than adults do.

There are many symptoms that a person can experience as part of an allergy attack, including: a runny nose; repetitive sneezing; coughing; nasal congestion and inflammation; red, itchy eyes, ears, nose and throat; ear plugging; conjunctivitis; watery eyes; nasal stuffiness; post-nasal drip; sinus headaches; sinusitis; ear infections; hives; rashes; itchy skin; swelling of lips, tongue or face; swelling (at the site of an insect bite); tightening of the throat; nausea; vomiting; wheezing; diarrhea; fatigue; “allergic eyes” or “allergic shiners” (dark areas under the eyes from increased blood flow and pooling); breathing difficulties; and, in some cases, anaphylaxis.

Anaphylaxis is a severe allergic reaction in a person previously sensitized to an allergen that may be local or systemic.

Local reactions appear at the site of exposure, and include symptoms such as skin warm to the touch, hives, swelling, and reddening of the skin. Systemic anaphylaxis can involve the respiratory, cardiovascular, and gastrointestinal systems, producing such symptoms as flushing; wheezing; difficulty breathing; increased mucous production; nausea; vomiting; abdominal cramps; increased pulse rate; a sudden drop in blood pressure; and feelings of generalized anxiety.