



In this Newsletter:

“Mold, Histamine & Your Immune System: What Happens When We Are Exposed to Mold?”; and
“Mold, Mast Cells and Histamine: Could Your Genetics Influence Your Response?”

September 2026

NO. 20

Mold, Histamine & Your Immune System

Why Autumn Can Be a Trigger



As summer gives way to autumn, many people look forward to cooler temperatures, colorful leaves, and changing seasons. For individuals who are sensitive to mold, however, fall can also bring an increase in respiratory, allergic, and inflammatory symptoms.



Mold is a natural part of our environment and plays an important role in breaking down organic material. During late summer and early autumn, fallen leaves, decaying vegetation, damp soil, increased rainfall, and fluctuating humidity create favorable conditions for fungal growth and airborne mold spores. Research has shown that outdoor fungal spore concentrations often rise during the summer and fall, with certain molds reaching peak levels in late summer or early autumn.



For most people, everyday exposure causes little or no difficulty. For others—particularly those with allergies, asthma, chronic respiratory conditions, or certain immune susceptibilities—mold exposure may contribute to a significant inflammatory response.

What Happens When We Are Exposed to *Mold*?

Mold spores and fungal fragments can enter the body primarily through the respiratory tract. Once encountered, the immune system determines whether they are harmless environmental particles or something requiring an immune response.

In susceptible individuals, fungal allergens can activate mast cells and other immune cells. Mast cells can release **histamine**, along with inflammatory cytokines and other chemical mediators. This response may contribute to symptoms such as:



Nasal congestion or sinus pressure



Sneezing or postnasal drainage



Itchy or watery eyes



Coughing or wheezing



Throat or airway irritation



Skin irritation, itching, or rashes



Worsening asthma or environmental allergies



Some individuals also report fatigue, headache, **difficulty concentrating**, or “**brain fog**” when they believe environmental exposure is affecting them. Because these symptoms can have many different causes, a comprehensive medical evaluation is important rather than assuming mold exposure is responsible.



Established medical research most strongly links damp and moldy environments with **allergic rhinitis**, **asthma symptoms**, **respiratory irritation**, **eczema**, and **hypersensitivity pneumonitis** in susceptible individuals.

Mold, Mast Cells & Histamine

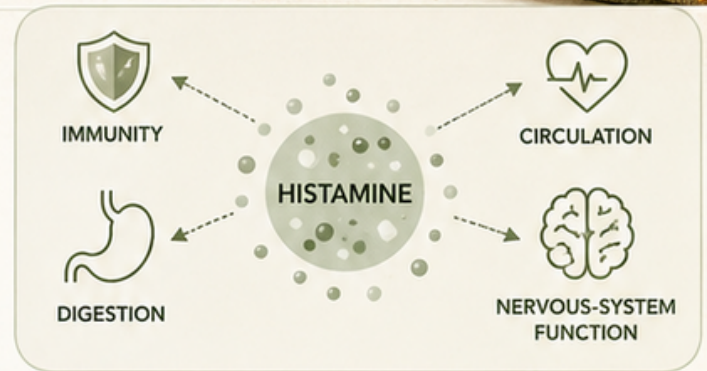
Why mold affects people differently

1



What is histamine?

Histamine is a natural chemical messenger in the body. It helps support immunity, digestion, circulation, and nervous-system function. Problems can happen when the body releases too much histamine or when a person is more sensitive to it.

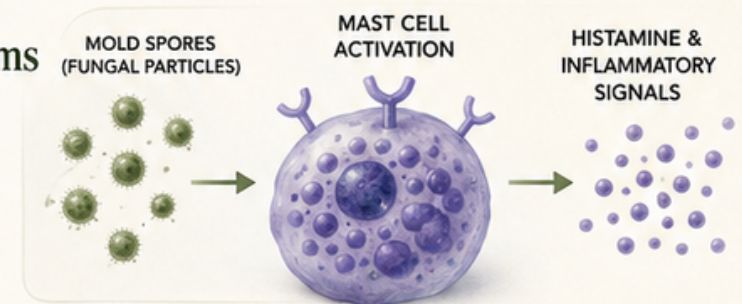


2



How mold may trigger symptoms

Mold and fungal particles can activate mast cells, which may release histamine and other inflammatory signals. This may contribute to symptoms such as congestion, sneezing, itchy eyes, coughing, skin irritation, and flare-ups of allergies or asthma.



This may help explain why two people in the same environment can react very differently.



CONGESTION



SNEEZING



ITCHY EYES



COUGHING



SKIN IRRITATION



ALLERGY OR ASTHMA FLARE-UPS

3



Understanding IL-1, IL-2 & IL-3

Interleukins are chemical messengers of the immune system. They help immune cells communicate and coordinate inflammation and allergic responses.



IL-1:

Helps trigger inflammation. Mold and fungal particles may activate IL-1 pathways, especially in people with sensitive airways or allergies.



IL-2:

Helps activate and regulate T-cells, which guide the body's immune response. It supports immune function but is not a specific marker for mold exposure.



IL-3:

Supports immune cells involved in allergic and histamine responses, including basophils. It may contribute to increased inflammation during allergic reactions.



*Mold-related inflammation is complex and can involve many immune messengers.
Each person's immune response can be different.*



Could Your Genetics Influence Your Response?

The 3X4 Genetics Approach

1

Why people respond differently

Why does one person seem relatively unaffected by an environmental trigger while another develops congestion, headaches, skin symptoms, or exaggerated allergic responses? Part of the answer may lie in genetics.



2

How 3X4 Genetics may help

At Advanced Integrative Care, we offer 3X4 Genetics testing to help identify genetic variants that may influence metabolic, inflammatory, detoxification, and histamine-related pathways. One especially important area is histamine metabolism.

Genetics can influence how your body processes and responds to triggers.

3

Key histamine pathways



DAO – Diamine Oxidase
DAO helps break down histamine, especially in the digestive tract.

HISTAMINE RESPONSE

HNMT – Histamine N-Methyltransferase

HNMT helps process histamine within tissues throughout the body.



4

What this information can tell us

Certain genetic variants may influence how efficiently these pathways work. This may offer insight into why some people have more difficulty managing histamine when exposed to environmental allergens, certain foods, stress, medications, or other triggers.



Environmental Allergens



Certain Foods



Stress



Medications



Other Triggers

5

Genetics is one piece of the puzzle

A genetic test does not diagnose mold toxicity, mold allergy, mast-cell disease, or current inflammation. It does not directly measure IL-1, IL-2, or IL-3. Instead, it provides a baseline picture of potential susceptibility. At Advanced Integrative Care, we interpret these findings alongside symptoms, medical history, environmental exposures, lab findings, nutrition, lifestyle, and other appropriate testing. When true mold allergy is suspected, conventional allergy testing may also be appropriate.