

## Histamine Intolerance – A Gut Microbiome Consideration

Histamine is an extremely important, natural chemical necessary for efficient functioning of many body systems.

What it is and what it does:

- A neurotransmitter or chemical messenger in the brain
- Regulates stomach (gastric) acid (HUGELY important in GT5)
- Controls blood vessel permeability
- Is necessary for muscle contraction
- Regulates the lungs inflammatory response to the external environment
- Is required for proper brain function
- Plays essential roles in defending against pathogenic bacteria, viruses and other foreign bodies

Histamine is made and stored within leukocytes (white blood cells) such as mast cells in tissues and in basophils in the blood. When the immune system is activated in response to foreign protein entering the body, histamine is the responding "defense chemical" that unleashes inflammation. Inflammation is the body's natural response to a perceived or actual threat.

So, histamine is always present with inflammation, and if in excess or triggered by non-threats (chronic food sensitivities caused by leaky gut), the body still experiences an inflammation-response, e.g. heat, swelling, redness, hives, and basic allergic-reaction symptoms such as runny nose, itchy eyes, and cloudy brain.

Histamine is a key mediator of the allergic reaction when an allergen is encountered. Allergens are things such as plant pollens, dust and dust mites, animal dander, mold spores, and certain proteins in foods. An allergic reaction occurs when the immune system mistakes a harmless substance for an actual threat.

### Histamine Intolerance

Histamine intolerance is not a real allergy because no antigen-antibody reaction occurs. What happens is the body fails to break down outside factors (absorbed histamines) that occur naturally in foods such as meat, red wine, aged cheese, vinegars, pepperoni, salami, tomatoes, citrus fruits, strawberry, raspberry, tomatoes, apricots, cherries, plums, eggplant, pumpkin, kefir, bologna, eggs, shellfish, hot dogs, fish, and sauerkraut ... **AND BONE BROTH.**

Bone Broth helps heal the gut mucosa, but histamine-intolerant people may not be able to use it until after there is significant improvement in the gut microbiome and a less inflammatory gut lining. A substitute for bone broth to consider for leaky gut healing is aloe vera and organic, young green coconut water and gel. This is also the choice for vegetarians. Together they provide nutrients and peptides that the body can use to repair itself.

Such reactions can occur when there is an impaired histamine catabolism, or enzymatic break down of histamine molecules. There are two enzyme system that accomplish this:

- DAO (Diamine Oxidase) in the intestinal mucosa
- HMT (Histamine N-Methyl Transferase)

If the amount of acquired or generated histamine exceeds the ability of those two enzymes to degrade them, then the person can suffer symptoms similar to acute allergic reactions.

Gut Thrive in 5 seeks to repair the leaky gut and therefore reduces or eliminates histamine intolerance.

## Symptoms of Histamine Excess

Whatever the source of histamine, from foods or from the immune system, when the levels exceed the capacity to break it down, excess histamine symptoms occur:

- Anaphylaxis
- Anxiety / Panic Attack
- Blackouts lasting a couple of seconds
- Chest pain
- Confusion
- Conjunctivitis (irritated, watery, reddened eyes)
- Eczema
- Fatigue
- Itching: skin, eyes, ears, and nose
- Headaches
- Heartburn
- Hives
- Indigestion
- Irritability
- Low Blood Pressure
- Menstrual Pain
- Nasal congestion and runny nose
- Reflux
- Swelling of face, lips, mouth, throat. Tight throat.
- Tachycardia (increased pulse rate, “heart racing”)

Many drugs can cause histamine intolerance including the popular “baby aspirin,” antibiotics, non-steroidal anti-inflammatory drugs, diuretics, antidepressants as ALL interfere with the DAO enzyme process.

## Microorganisms in the Colon – The Gut-Histamine Connection

Many microorganisms produce histamine as a normal part of their metabolic processes. The bacteria produce an enzyme, histidine decarboxylase, that converts the protein, histidine, into histamine. Therefore, a high amount of dietary protein coupled with an overgrowth of histamine producing bacteria can overwhelm the ability of the body to handle it. The excessive histamine can be conveyed through the bowel wall to various sites in the body.

## The Truth About Shellfish Allergies

Some foods such as shellfish are known to have elevated histamine levels. Microorganisms capable of converting histidine to histamine exist in fish intestines and in shellfish. As soon as a fish dies, its innate gut bacteria start to break down the food-tissue proteins, releasing histidine, which converts to histamine. The level of histamine in the un-gutted fish can double in just 20 minutes. The longer a fish remains un-gutted after it dies, the higher the level of histamine in its tissues. Shellfish are not gutted after harvesting and so their gut bacteria will produce histamine as long as the fish remains uncooked. Many a reaction to fish or shellfish has been blamed on “shellfish allergy”, when actually it was a histamine reaction. Cooking shrimp in beer helps reduce the histamines.

## Combined Histamine-Sensitivity Aggravators

Histamine tolerance levels fluctuate with changing conditions. For example, when a person is experiencing allergy to airborne pollens, the histamine released in that allergic response can increase sensitivity to histamine foods. Also, at such times, avoiding histamine-associated foods will no longer relieve allergy symptoms because the total level of histamine will still be too high. So during pollen allergy season, food reactivity increases. Hence the importance of using **Christa's bee pollen tolerance test** to alleviate season allergies by building up antibodies to local flora and fauna.

As a result of the multiple factors contributing to excess histamine, combined with each individual's genetic or innate capacity to handle histamine, symptoms of histamine intolerance fluctuate from day to day. Unlike pollen allergies, which require the pollen to cause allergic misery, histamine intolerance is hard to pin down because a specific food does not always result in a reaction. It becomes a consideration to total histamine exposure.

Often, instead of correcting the cause, e.g. gut microbiome imbalance, lack of probiotic biodiversity and overgrowth of histamine-producing species, a person will instead limit their diet and nutrition (and not eat leftovers) in attempt to avoid all high-histamine foods.

Gut Thrive in Five seeks to correct the underlying cause of histamine intolerance, and therefore to eliminate it.

The natural health techniques of improving the gut microbiome, reducing the set-point of inflammation, and full and varied eating plans can help restore the body's histamine response to acceptable bounds.