
HISTAMINE INTOLERANCE

Article by Dr. Amy Myers

WHAT IS HISTAMINE?

Histamine is a chemical involved in your immune system, proper digestion, and your central nervous system. As a [neurotransmitter](#), it communicates important messages from your body to your brain. It is also a component of stomach acid, which is what helps you break down food in your stomach.

You might be most familiar with histamine as it relates to the immune system. If you've suffered from seasonal [allergies](#) or food allergies, you may have noticed that antihistamine medications like Zytrec, Allegra or Benedryl provide quick relief of your symptoms. This is because histamine's role in the body is to cause an immediate inflammatory response. It serves as a red flag in your immune system, notifying your body of any potential attackers.

Histamine causes your blood vessels to swell, or dilate, so that your white blood cells can quickly find and attack the infection or problem. The histamine buildup is what gives you a headache and leaves you feeling flushed, itchy and miserable. This is part of the body's natural immune response, but if you don't break down histamine properly, you could develop what we call histamine intolerance.

Because it travels throughout your bloodstream, histamine can affect your gut, lungs, skin, brain, and entire cardiovascular system, contributing to a wide range of problems often making it difficult to pinpoint and diagnose.

COMMON SYMPTOMS OF HISTAMINE INTOLERANCE INCLUDE:

- Headaches/migraines
- Difficulty falling asleep, easily aroused
- Hypertension
- Vertigo or dizziness
- Arrhythmia, or accelerated heart rate
- Difficulty regulating body temperature
- Anxiety
- Nausea, vomiting
- Abdominal cramps
- Flushing
- Nasal congestion, sneezing, difficulty breathing
- Abnormal menstrual cycle
- Hives
- Fatigue
- Tissue swelling

WHAT CAUSES HIGH HISTAMINE LEVELS?

- Allergies (IgE reactions)
- [Bacterial overgrowth](#) (SIBO)

- [Leaky gut](#)
- GI bleeding
- Fermented alcohol like wine, champagne, and beer
- [Diamine Oxidase](#) (DAO) deficiency
- Histamine-rich foods

In addition to the histamine produced inside your body, there are also a variety of foods that naturally contain histamine, cause the release of histamine, or block the enzyme that breaks down histamine, diamine oxidase.

HISTAMINE-RICH FOODS:

- Fermented alcoholic beverages, especially wine, champagne and beer
- Fermented foods: sauerkraut, vinegar, soy sauce, kefir, yogurt, kombucha, etc
- Vinegar-containing foods: pickles, mayonnaise, olives
- Cured meats: bacon, salami, pepperoni, luncheon meats and hot dogs
- Soured foods: sour cream, sour milk, buttermilk, soured bread, etc
- Dried fruit: apricots, prunes, dates, figs, raisins
- Most citrus fruits
- Aged cheese including goat cheese
- Nuts: walnuts, cashews, and peanuts
- Vegetables: avocados, eggplant, spinach, and tomatoes
- Smoked fish and certain species of fish: mackerel, mahi-mahi, tuna, anchovies, sardines

HISTAMINE-RELEASING FOODS:

- Alcohol
- Bananas
- Chocolate
- Cow's Milk
- Nuts
- Papaya
- Pineapple
- Shellfish
- Strawberries
- Tomatoes
- Wheat Germ
- Many artificial preservatives and dyes

DAO-BLOCKING FOODS:

- Alcohol
- Energy drinks
- Black tea
- Mate tea
- Green tea

Whew! That was a long list. You might be wondering now what on earth you CAN eat, so I've made a list of low histamine foods as well. Remember that freshness is key when you have histamine intolerance!

HERE'S A LIST OF LOW-HISTAMINE FOODS:

- freshly cooked meat, poultry (frozen or fresh)
- freshly caught fish
- eggs
- gluten-free grains: rice, quinoa
- pure peanut butter
- fresh fruits: mango, pear, watermelon, apple, kiwi, cantaloupe, grapes
- fresh vegetables (except tomatoes, spinach, avocado, and eggplant)
- dairy substitutes: coconut milk, rice milk, hemp milk, almond milk
- cooking oils: olive oil, coconut oil
- leafy herbs
- herbal teas

HOW DO I BREAK DOWN HISTAMINE?

Once formed, histamine is either stored or broken down by an enzyme. Histamine in the central nervous system is broken down primarily by histamine N-methyltransferase (HMT), while histamine in the digestive tract is broken down primarily by diamine oxidase (DAO). Though both enzymes play an important role in histamine break down, the [American Society for Clinical Nutrition](#) found that DAO is the main enzyme responsible for breaking down ingested histamine. So if you're deficient in DAO, you likely have symptoms of histamine intolerance.

- Causes of Low DAO
- [Gluten intolerance](#)
- [Leaky gut](#)
- [SIBO](#)
- DAO-blocking foods: alcohol, energy drinks, and tea
- Genetic mutations (common in people of Asian-descent)
- Inflammation from Crohn's, ulcerative colitis, and inflammatory bowel disease.
- Medications:
 - Non-steroidal anti-inflammatory drugs (ibuprofen, aspirin)
 - Antidepressants (Cymbalta, Effexor, Prozac, Zoloft)
 - Immune modulators (Humira, Enbrel, Plaquenil)
 - Antiarrhythmics (propranolol, metoprolol, Cardizem, Norvasc)
 - Antihistamines (Allegra, Zyrtec, Benadryl)

- Histamine (H2) blockers (Tagamet, Pepcid, Zantac)

Although histamine blockers, a class of acid-reducing drugs, seem like they would help prevent histamine intolerance, these medications can actually deplete DAO levels in your body.

TESTING FOR HISTAMINE INTOLERANCE

ELIMINATION/REINTRODUCTION

Remove the above high histamine foods for 30 days and reintroduce them one at a time.

BLOOD TESTING

I use a test through Dunwoody labs to test for histamine levels and DAO levels. A high ratio of histamine/DAO signifies that you are ingesting too much histamine and that you don't have enough DAO to break it down.

TRIAL OF DAO

If testing is unavailable to you, you could simply try a diet low in histamine and add DAO supplementation at each meal. If your symptoms resolve, you could have low DAO.

HOW TO TREAT HISTAMINE INTOLERANCE?

Remove the high histamine foods for 1-3 months. Add in a supplement of DAO by taking two pills at each meal. Most importantly, find the root cause for the histamine intolerance. If you're on a medication that is causing the intolerance, working with your physician to wean off of these medications is essential

If you're currently suffering from histamine intolerance, you may not have to avoid these foods forever. It can be a short-term solution until your histamine or DAO levels return to their optimal ranges. Depending on your unique situation, you may find that you tolerate some foods better than others, so I encourage you to stay optimistic as you learn important information about your body!

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