

HISTAMINE INTOLERANCE & THE LOW HISTAMINE DIET

Protocol Update for Gutivate LLC

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BACKGROUND

WHAT IS HISTAMINE INTOLERANCE?¹

- Histamine intolerance is a non-immune reaction in which histamine accumulates in the blood due to a deficiency of diamine oxidase (DAO), the enzyme that plays the primary role in the metabolism of exogenous histamine
- Estimated global prevalence: 1-3%

COMMON SYMPTOMS²

- **Gastrointestinal:** bloating, postprandial fullness, diarrhea, abdominal pain, constipation
- **Cardiovascular:** Dizziness, headache
- **Respiratory:** Runny nose, sneezing
- **Dermatological:** Itchy skin, flush, rash

DIAGNOSIS & TREATMENT³

- Response to low histamine elimination diet is considered most reliable indicator of histamine intolerance
- The low histamine diet is also the primary therapeutic approach

3 Step Elimination & Reintroduction Protocol	
Step 1: Restriction phase (10-14 days)	Limit biogenic amine intake, especially histamine.
Step 2: Test phase (up to 6 weeks)	Strategically reintroduce foods and determine individual histamine tolerance.
Step 3: Permanent nutrition	Create a long-term nutrition plan that optimizes digestive function, nutritional status, and quality of life based on individual histamine tolerance.

LOW HISTAMINE DIET

CONSIDERATIONS⁴

The goal of a low histamine diet is to reduce histamine accumulation. Foods avoided on low histamine diets fall into three main categories:

1. **High histamine foods** directly contribute to histamine accumulation
2. **Other biogenic amines** (putrescine, cadaverine, tyramine, spermidine, and spermine) may interfere with the degradation of histamine due to enzymatic competition with DAO
3. **“Histamine liberators”** are hypothesized to trigger the release of endogenous histamine

LIMITATIONS⁴

- No consensus as to what is considered “low histamine”
- Histamine accumulation varies depending on production, storage, and cooking methods
- Extent of the role of other biogenic amines is unclear
- A mechanism for “histamine liberators” has yet to be proposed, and there is a lack of clinical evidence to support adverse effects of their consumption

A review of low histamine diets found that **47%** of foods excluded could not be justified based on biogenic amine content.⁴

OBJECTIVE

- Develop an evidence-based low histamine diet list using available laboratory data

UPDATED HISTAMINE DIET LIST

FOODS HIGH IN HISTAMINE (>5 mg/kg)^{1,4,5-10}

- > Cured and semi cured cheeses
- > Canned and semi preserved fish
- > Dry-fermented and cured meat
- > Fermented vegetables (sauerkraut, kimchi)
- > Fermented beverages (kombucha, kefir)
- > Fermented soy (seitán, tempeh, soy sauce)
- > Grated cheese
- > Oily fish
- > Fish sauce
- > Spinach
- > Tomatoes
- > Alcohol
- > Eggplant
- > Avocado
- > Vinegar

FOODS HIGH IN OTHER BIOGENIC AMINES (>30 mg/kg)^{4,6,7}

- > Citrus
- > Banana
- > Kiwi
- > Plum
- > Nuts
- > Lentils
- > Chickpeas
- > Soybeans
- > Soybean sprouts
- > Tea
- > Wheat germ
- > Green pepper
- > Corn
- > Peas
- > Lettuce
- > Passion fruit
- > Pears
- > Mushrooms



OTHER ADDITIONS TO PROTOCOL

FOOD STORAGE & PREPARATION

- Consume foods in the freshest form possible
- Trial boiled foods with clients during reintroduction phase; evidence suggests that histamine content of some foods is reduced after boiling

MEDICATIONS & SUPPLEMENTS

- Recommend tests for vitamin C, B6, and copper deficiency and supplement if appropriate; these nutrients are cofactors for DAO
- Encourage patient to discuss OTC antihistamine use with MD
- Review medication list for drugs known to interfere with histamine metabolism (i.e. NSAIDs, amitriptyline, metoclopramide)

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