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HISTAMINE

WHAT IS HISTAMINE? WHERE DOES IT COME FROM?

Histamine is a substance created by the body and bacteria: it's produced in different areas including the stomach, the brain and in mast cells as well as by certain gut bacteria. Therefore, it is involved in 3 primary areas of the body - immune function, digestion and the brain/nervous system.

A large amount of histamine is produced by mast cells (a type of immune cell) which are mainly found in tissues that come into contact with the 'outside' - the skin, lungs and digestive tract, as well as other tissues such as blood vessels and lymph nodes.

WHAT IS HISTAMINE'S ROLE IN THE BODY?

In general, histamine's job is to increase blood supply to a particular area, to resolve any problems. It is a protective mechanism that ultimately leads to various reactions in the body - it is all part of your body's natural immune response. Its action is ultimately dependent on what it attaches to (aka "receptors"). Histamine's main job is to signal an immediate inflammatory response within the body. It raises a red flag to move your immune system into action against potential attackers.

WHAT IS HISTAMINE'S ROLE IN IMMUNITY?

Histamine is your first responder when the immune system detects a potential threat, such as an allergen or pathogen. It promotes the recruitment and activation of immune cells to the site of infection or injury. This becomes a problem when the immune system looks at triggers as harmful, even if some of them (like food or pollen) are relatively safe. The release of histamine into the bloodstream causes inflammation in areas such as the nose or eyes.



HOW DO WE DEVELOP

HISTAMINE INTOLERANCE?

IMPAIRED ENZYME FUNCTION

Typically, enzymes will break down histamine to prevent it from building up in your bloodstream. If this doesn't happen properly, due to the lack of an enzyme called diamine oxidase (DAO), it builds up and you may eventually develop histamine intolerance. This dysfunction could be due to genetics, medications or a lack of gut bacteria producing this enzyme (source).

POOR GUT HEALTH

An imbalance in the gut microbiome can affect the levels of histamine absorbed into the bloodstream.

MEDICATION

Certain medications can interfere with the breakdown of histamine. Please seek advice from your GP.

HIGH HISTAMINE DIET

Consuming high levels of histamine rich foods may contribute to a build up in the body. Histamine-rich foods include:

- + Fermented foods
- + Cured meats
- + Shellfish
- + Tinned fish i.e tuna, mackerel, sardines
- + Wine and beer
- + Peanuts

Histamine-releasing foods include:

- + Citrus fruits
- + Tomatoes
- + Vinegars
- + Cocoa powder
- + Nuts: cashews, walnuts, peanuts, pine nuts

It is important to note that if you have a histamine intolerance, avoiding high-histamine foods may make you feel better but doesn't address the root cause. Your diet, your inner ecosystem, and your immune system all work together in concert. Restoring balance is ultimately more important than avoiding trigger foods.

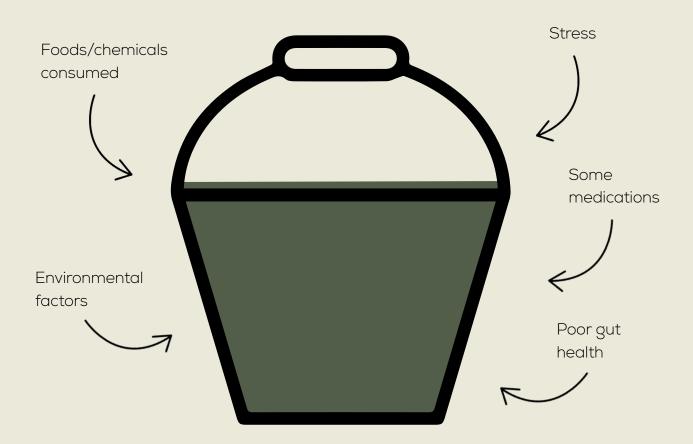


THE

HISTAMINE BUCKET THEORY

The histamine bucket theory is a useful visual aid to help us understand the impact of factors which contribute to histamine levels. This theory can help us to understand how

different factors (i.e certain foods, stress, environment) affect our individual histamine levels and symptoms and therefore, how to reduce this exposure where possible.



SYMPTOMS OF BUCKET OVERFLOWING:

Stomach pain Inflammation Flushing Itching/hives Heartburn Swelling of lips/face

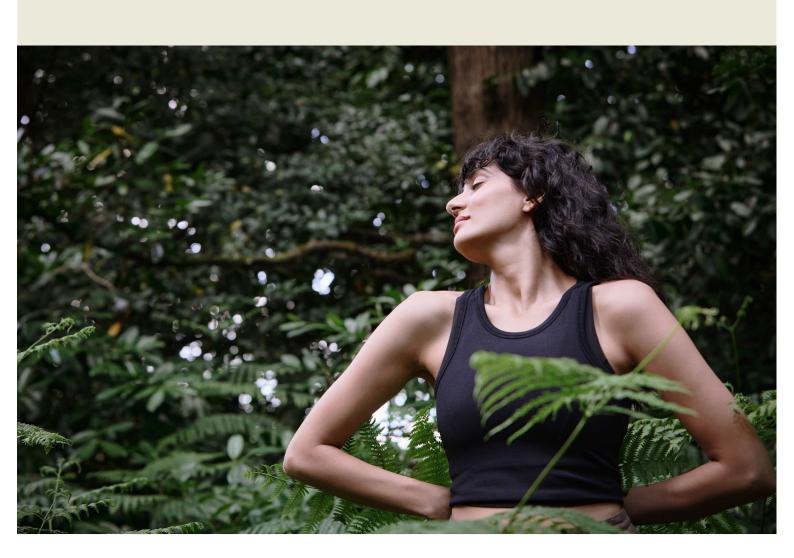
SYMPTOMS OF

HISTAMINE INTOLERANCE

As histamine travels throughout your bloodstream, it can affect your gut, lungs, skin, brain and cardiovascular system. This chemical can contribute to a wide range of symptoms often making it hard to pinpoint this issue.

Although symptoms appear similar to allergies, histamine intolerance is not actually an allergic reaction, rather it is an issue of impaired breakdown of histamine. Histamine intolerance may cause symptoms such as:

- + Abdominal cramps
- + Sleep disturbances
- + Fatigue
- + Flushing
- + Headaches / migraines
- + Hives
- + Mood disorders
- + Nasal congestion
- + Nausea
- + Muscle pain



IF I HAVE HISTAMINE INTOLERANCE, DO I NEED TO AVOID ANY OF YOUR PRODUCTS?

In general, the appropriateness of any food or supplement is very much dependent on the individual's level of tolerance. While we can provide suggestions on suitability, it's best to experiment and find your own personal threshold. You may also wish to consult with a healthcare professional before incorporating any new foods or supplements into your diet.

COLLAGEN

Whilst collagen itself does not contain histamine, the process of collagen degradation can release some histamine. Collagen degradation refers to the process by which collagen, a primary structural protein found in various connective tissues in the body, is broken down. This process is essential for normal tissue remodelling,

wound healing, and maintaining the balance of the extracellular matrix (ECM). Factors such as inflammation and digestive enzyme deficiencies can contribute to the breakdown of collagen and subsequent histamine release.

It's important to note that the interaction between collagen and histamine is complex and multifaceted. While collagen degradation can release histamine, it is also essential to maintain optimal collagen levels for overall health and well-being.

Furthermore, if you have histamine intolerance it is important to support a healthy gut lining and the creation of the protective mucus layer. Taking collagen helps to reduce inflammation and supports this lining. The better the integrity of the gut, the lower the chance of developing histamine intolerance.



MCT

MCT oil itself does not contain histamine and our True MCT oil is derived from coconuts, a low histamine food.

In fact, taking MCTs can actually help to improve gut health, calm your immune system and reduce inflammation - therefore actually helping to address the root cause and manage your histamine intolerance. Here is how:

MCTs can reduce the production of proinflammatory cytokines (<u>source</u>). MCTs can increase the activity of the histamine-clearing enzyme DAO (<u>source</u>). MCTs can increase mucous production in the gut which helps to restore gut barrier health (<u>source</u>).

However, it is important to note that like with any food or supplement, individual responses to MCT oil may vary. Some individuals may experience symptoms after consuming MCT oil, whilst others may not be

affected at all. If you suffer from histamine intolerance, you may wish to start with smaller amounts of MCT oil to determine your suitability.

COFFEE

Research on coffee and histamine is not extensive, but it typically points to low quality coffee. We use high-grade organic coffee beans which have gone through a natural, unwashed process. It is often the 'wet method' used with some coffee which includes a fermentation process and it is this which can trigger symptoms.

We have also taken the extra measure to ensure that our coffee is not just organic and free of pesticides, but also free of undesirable moulds.

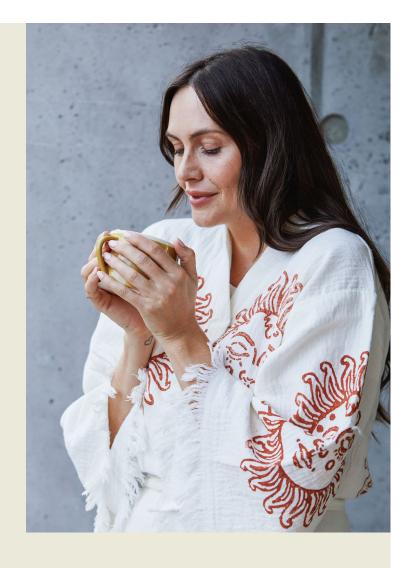
Therefore, it is unlikely that our Coffee + Collagen will trigger symptoms but as with the other products it is best to monitor your body's response.



COCOA

Cocoa does not naturally contain high levels of histamine. However, the fermentation and processing of the cacao beans, from which cocoa is derived, can lead to the formation of histamine.

If you have histamine intolerance, it is wise to exercise caution when consuming our Cacao + Collagen or Cacao + Reishi and carefully monitor your body's response.





MATCHA

Green tea is not one of the common triggers for histamine sensitivity, but everyone's body can react differently so the same principle applies where you may wish to experiment and test your own personal threshold.

On the brighter side, the powerful antioxidant EGCG is a potential blocker of histamine release.

HOW TO RESTORE BALANCE

TO HELP MANAGE YOUR SYMPTOMS

SUPPORT A DIVERSE AND BALANCED GUT MICROBIOME

Histamine intolerance is primarily a gut issue as both the enzymes and bacteria that break down histamine are all located in the gut (<u>source</u>). Therefore, supporting a healthy gut is key to managing symptoms of histamine intolerance.

Different foods will provide different phytonutrients to help feed your gut bugs, so it is important to be consuming a variety of foods throughout the week.

SUPPORT A HEALTHY GUT LINING

By supplying your gut with polyphenols, which have antioxidant and anti-inflammatory properties. For those looking to prevent histamine issues, our Cacao + Collagen blend is rich in beneficial polyphenols. The amino acids found in collagen also work to target and repair damage to the intestinal lining.

FEED THE BUTYRATE PRODUCING BACTERIA IN YOUR GUT

Butyrate is a type of short chain fatty acid which helps to dampen down mast cell activation, reducing the release of histamine. Fibre from foods such as pulses, legumes, whole grains, fruits and vegetables and nuts and seeds will help to feed this type of bacteria. Remember to drink plenty of water alongside fibre to avoid constipation.

Many of our products contain chicory root inulin which is an excellent source of fibre for the gut.

ENSURE REGULAR BOWEL MOVEMENTS

Constipation can contribute to a build up of histamine in the colon which can then be reabsorbed into the bloodstream. Regular physical exercise and plenty of dietary fibre and fluids will help to ensure regular bowel movements.





STRESS MANAGEMENT

Stress can trigger the release of histamine in the body, so managing stress through techniques such as meditation, yoga, and deep breathing are important for restoring balance. Stress can also disrupt the balance of gut bacteria, which can affect the breakdown and elimination of histamine.

INCREASE DAO ENZYME

DAO is an enzyme that's responsible for breaking down histamine. When foods high in histamine pass into the small intestine, DAO breaks it down and prevents it from entering the body. When you have sufficient DAO levels, nearly all of the histamine that passes through your digestive tract is broken down. The aim is to increase these levels of DAO.

Foods that help boost DAO levels in your body and are also less likely to trigger histamine response include:

- + Omega-3 fatty acids →: oily fish, flaxseeds, walnuts
- + Healthy saturated fats → Grass-fed butter, pasture-raised chicken eggs
- + Phosphorus → Broccoli, white beans
- + Calcium: Dark leafy greens, broccoli, lentils
- + Zinc: Grass-fed meat, almonds, green veggies, True Nightcap.
- + Magnesium: Dark leafy greens, pumpkin seeds, True Nightcap.
- + Vitamin B12: grass-fed beef liver, grass-fed beef
- + Iron: Lentils, pumpkin seeds, grass-fed beef

Determine your own threshold for consuming histamine-rich foods.

This will require some trial and error. Until your health improves with the above steps, and you can tolerate more foods, keep a journal to track your intake of histamine-rich foods and their effects.

OUR HISTAMINE

PROTOCOL



True Collagen

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Wild Collagen



MCT Oil

VIEW PRODUCT

VIEW PRODUCT

VIEW PRODUCT



True Nightcap



Matcha + Collagen

VIEW PRODUCT

VIEW PRODUCT