

# HISTAMINE INTOLERANCE AND LONG COVID

**This article outlines recent discussions around histamine intolerance and some long-COVID symptoms.**

Histamine is a chemical that is both made by the body and found in certain foods. It is an inflammatory substance produced by cells during an infection. It encourages an immune response to help fight off infection, thus is important to the human body.

## HISTAMINE INTOLERANCE

Approximately 1% of the world's population has a histamine intolerance.<sup>1</sup> It arises through an increased availability of histamine in the body and decreased activity of the enzymes that break down histamine. Histamine intolerance can cause symptoms such as diarrhoea, headache, asthma, rhinitis, hypotension, arrhythmia, hives, itching, flushing and other conditions.<sup>1</sup> Symptoms can occur after a few hours up to a few days.<sup>2</sup> These symptoms are similar to those reported by long-COVID sufferers. Anecdotally, some who have tried a low-histamine diet claim it reduces their symptoms.

## LONG-COVID

Long-COVID is also referred to as 'post-COVID syndrome'. It is defined as, 'symptoms that develop during or following an infection consistent with COVID-19, continue for more than 12 weeks and are not explained by an alternative diagnosis'.<sup>3</sup>

Recently, scientists have been discussing the role of mast cell activation syndrome (MCAS) in COVID-19.<sup>4</sup> Their theory is that long-COVID symptoms could be triggered by MCAS, where the mast cells release histamine in response to a viral infection.<sup>5</sup> Despite a lack of evidence around histamine intolerance and long-COVID, some medical doctors

are now suggesting trialling a low-histamine diet to see if it improves symptoms.<sup>6</sup>

## DIAGNOSIS OF HISTAMINE INTOLERANCE

To date, there is no reliable test to diagnose histamine intolerance, also known as an adverse reaction to ingested histamine. Diagnosis is usually made through history and a three-step dietary adjustment.<sup>7</sup> This would include the use of a food and symptom diary.

It has been suggested that the 'gold standard' for diagnosing a histamine intolerance is to have a clinical assessment with a medical doctor who is experienced in histamine intolerance (or MCAS). This may include other tests to exclude other conditions. This should be followed by a low-histamine diet for four weeks under the supervision of a Registered Dietitian. It is then recommended that a double-blinded placebo-controlled provocation test is carried out with histamine to establish its effects,<sup>1</sup> normally done under medical supervision. However, there is currently no procedure for performing such tests.<sup>7</sup>

## WHAT IS A LOW-HISTAMINE DIET?

A low-histamine diet can be restrictive and time-consuming. Reports from the long-COVID community suggest that people have struggled to adhere to it, alongside their debilitating symptoms. In addition, histamine levels in food can have a significant variation and are subject to the age of the food, the storage time and how food has been treated.<sup>7</sup> This can cause issues establishing



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## REFERENCES

Please visit:  
[nhdmag.com/references.html](http://nhdmag.com/references.html)



The low-histamine diet can be extremely limiting and frustrating. The hope is that the diet may not be forever.

Table 1: Examples of high-histamine foods<sup>1,8,9</sup>

High histamine foods	
Cured, tinned/canned, processed meats such as salami, fermented sausage, fermented ham	Fish such as tuna, sardines, mackerel, herring
Fermented dairy such as aged cheese (Gouda, Camembert, Cheddar, Swiss, Parmesan)	Soured dairy such as buttermilk
Fermented soy products such as miso and soy sauce	Pickled/fermented vegetables such as sauerkraut
Oranges, bananas, tangerines, pineapple, grapes and strawberries	Aubergine, spinach, broad beans
White and red wine vinegar, pickles, dressings containing vinegar, yeast extract	Coffee, cocoa/hot chocolate, green tea
Peanuts	Alcohol
Histamine releasing foods <sup>9*</sup>	
Citrus fruit, strawberries, pineapple	Spinach
Alcohol	Chocolate
Tomatoes and tomato products	

\*It is worth noting that there is still no evidence that histamine-releasing foods have a clinical significance.<sup>9</sup>

actual histamine content in foods. Table 1 gives examples of foods high in histamine. There are many food lists available on the internet and many have conflicting advice.

Some studies report that certain medications and alcohol can inhibit the enzyme diamine oxidase (DAO). This enzyme helps break histamine down in the body. Further research, however, is needed in this area.<sup>9</sup>

**WHY IT IS IMPORTANT TO WORK WITH A DIETITIAN**

One of the main reasons for working with a dietitian is to ensure a balanced diet with adequate nutrients is being achieved. The low-histamine diet can be extremely limiting and frustrating. The hope is that the diet may not be forever. Some individuals may be able to tolerate a certain amount of histamine in their diet after a period of time. Many may also need medications

such as antihistamines or mast cell stabilisers to help manage symptoms, although further research is needed in the area.<sup>4</sup>

**CONCLUSION**

Despite the lack of evidence around histamine intolerance and long-COVID, healthcare professionals should respect a patient’s decision to trial a low-histamine diet, particularly when other treatments are still lacking. Some may have already tried lowering histamine-containing foods and may well have seen a benefit, but they will need additional support to ensure their diet is adequate. Dietitians can help decrease the possibility of long-term restrictive diets, which can lead to poor health outcomes and a reduced quality of life.<sup>7</sup>

*NB: The information in this article is not a substitute for seeing a medical professional.*