



Low histamine food guide

Understanding histamine and your health

What is histamine?

Histamine is a chemical found in our bodies that we synthesise and store in specific places - there are histamine receptors on many cells of the body. It is naturally occurring and is an inflammatory agent contained within mast cells. Histamine is an important part of the immune and nervous systems. Histamine can trigger the immune system and cause symptoms like swelling, rashes or watery eyes. It can also cause symptoms like headaches, digestive problems and pain. Not only is it important in immune and nervous system function, but it's also necessary for gastric acid secretion and is an important neurotransmitter.

As well as the histamine we find naturally in our bodies, it is also present in (or can develop in) certain foods.

Histamine is formed as a deterioration product in perishable food, in microbial fermentation and maturation processes and in the ripening of fruit. Even some vegetables are naturally histamine containing. It is commonly found in ageing produce - think of meat, fish (unless caught fresh and eaten straight away), fermented foods like kimchi or sauerkraut, soy sauce, pickles and vinegars.

Histamines aren't 'bad', but we do need to figure out what has your body potentially upset about them.

This guide is designed to help you better understand the histamine response in the body and ways your food choices can ease the histamine burden.

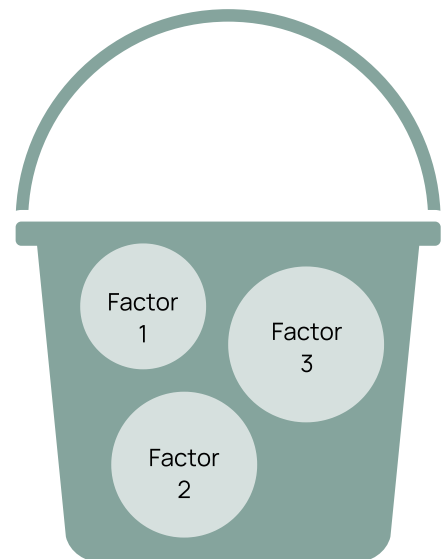
Your histamine bucket

When we're thinking about histamine, don't think of it in the same way as we might an allergy - it's not so black and white. Instead, consider total load across time. Let's say you have a 'histamine bucket' - how much would it take to fill YOUR bucket?

The three factors here are:

- **How big** your personal bucket is
- **How quickly** you add histamine foods to your day and fill that bucket (we all have a unique capacity so some buckets will fill up quicker than others)
- **How efficiently** does it drain?

Please know that as well as total histamine load, we need to make sure we pay attention to your total inflammation load - meaning other foods, environmental toxins, emotional/life stressors, bugs and viruses, which may contribute to overall load. We don't want to become so singularly focused that we forget other important contributors.



How much would it take to fill your histamine bucket?

Reasons histamine can be problematic

Let's explore the reasons a person may find histamine problematic and how your histamine bucket may be filled:

Histamine Intolerance (HIT)

HIT is not a true allergy, but rather a mismatch between the amount of histamine in the body, and the speed at which the body can clear it. Each person will have their own threshold or tolerance level. An intolerance is a non-allergic food hypersensitivity. The symptoms of HIT can be wide ranging and non-specific due to the wide distribution of histamine receptors in the body.

Mast Cell Activation Syndrome (MCAS)

In this often under-diagnosed condition, we see Mast Cells being overly responsive, creating sensitivity in a person that we might not normally expect. We see heightened sensitivity to things like the cleaning aisle at the supermarket, having high smell sensitivity, poor sleep, food intolerances, pain in body and more. MCAS affects between 9% - 17% of the general population.

Contributors to MCAS include toxic mould exposure, exposure to toxic chemicals and heavy metals, infections like Lyme/Epstein Barre, chronic stress and trauma and nervous system dysregulation.

You have Mast Cells in almost every tissue in your body - skin, eyes and ears, your entire GI tract, lung lining, lining of the bladder, blood vessels. Mast cells help with wound healing, immunity and blood-brain barrier function - they're really important and incredibly helpful.

Being so vital for immune health, we see a problem when either there are too many mast cells or they are 'out of control'. This 'out of control' presentation often happens when you're requiring too much of your mast cells by exposing your body to an unsustainable amount of pollutants, chemicals or stressors. They're exhausted and over worked and the outcome is they become too sensitive and hyper-vigilant. We now have problems where they might normally not occur.

Allergies

If your immune system is actively on duty to protect against allergens, your histamine concentration may increase.

One reason a practitioner might ask you to experiment with a low histamine diet is to find out if indeed your symptoms settle when the histamine load is reduced. This acts as an important clue in figuring out how to best support your health recovery.

Poor methylation

Methylation is the process of adding a methyl group (1 carbon + 3 hydrogens) to a compound in your body, resulting in a specific action.

Genetic variants, otherwise known as Single Nucleotide Polymorphisms, or SNPs (pronounced "snips") can cause genes associated with methylation, like the MTHFR (methyltetrahydrofolate reductase) gene, to not work as well. This can cause a person to not be able to detoxify as well or to not repair as well. It can work (or not work) the same way for histamine. Methyl groups are supposed to bind to a receptor site on a substance like histamine. That causes it to rapidly break down and be taken out of the body. Without enough methyl groups, histamine doesn't get broken down very well. If methylation isn't working well, histamine isn't deactivated and removed from the body - this can result in high circulating levels of histamine.

As we now know, histamine is a natural substance in our bodies which is a part of our immune response as well as a neurotransmitter for our brains. We do actually need it. It only becomes a problem when it doesn't get broken down, and high levels accumulate in the body. That's when the bucket overflows and we get symptoms.

DAO enzyme and histamine liberators

Two elements that can contribute to a histamine response

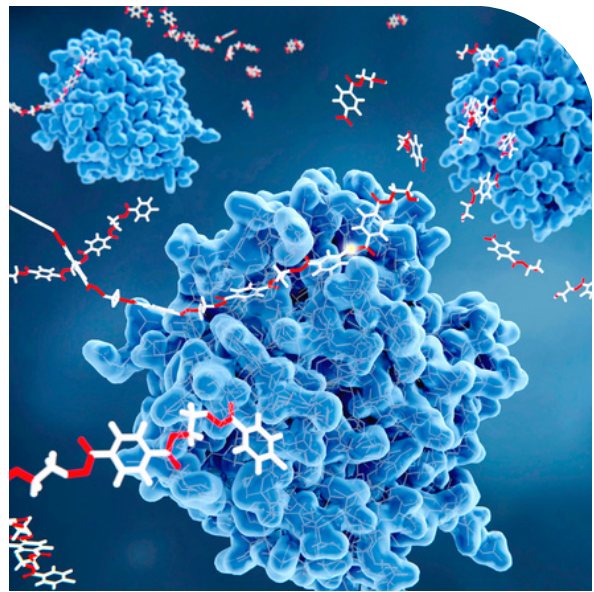
To add another layer of complexity when we're talking about histamines, there are two other elements that can contribute to a histamine response. These are the diamine oxidase **DAO enzyme** and **histamine liberators**.

DAO enzyme

DAO is an enzyme found in the gut. It is responsible for degrading histamine there. DAO is one of two histamine-degrading enzymes we know of (the other is HNMT).

DAO is the primary enzyme that is responsible for breaking down dietary histamine. If DAO levels are reduced, or the proper function of DAO enzymes is inhibited, the body may begin to display physical reactions indicative of histamine intolerance.

Using DAO supplements to help bring down histamine load may be recommended. DAO - requires co-factors for its production, so these may be prescribed as part of treatment.



Liberators

Liberators do what the name suggests, they liberate (release) histamine from foods and so can 'fill the bucket' up quicker, even if they're not technically high histamine foods being consumed.

That's why, in the avoid food list, you'll see a list of liberators to be mindful of such as:

- Alcohol
- Strawberries
- Nuts
- Seafood
- Chocolate
- Tomato
- Citrus fruits

Foods to INCLUDE

O - Oxalate L - Lectin - may trigger MCAS

! - High in pesticides - choose organic *High histamine but contains lowering elements so is safe

Vegetables

Artichokes - O	[Kale] - Curly - O
Arugula (Rocket)	Kohlrabi
Asparagus	Leafy Greens
Basil	Leeks
Bean Sprouts - L	Lettuce - Butter, Endive,
Beets - O (very high)	Leaf Green & Red ,
Bok Choy	Iceberg
Broccoli	Radicchio - O , Romaine
Broccolini	Mesclun
Brussels Sprouts	Mint
Cabbage - Chinese,	Mizuna
Green and Red , Napa	Mustard Greens
Carrots	Nopales Cactus - O
Cauliflower	Okra - O
![Celery]	Onions - any
Celeriac or Celery Root	Parsley, Curly - O
Chives	Parsley, Flat or Italian
Cilantro	Parsley Root
Collards	Parsnips
![Corn] - L (If tolerated)	![Peppers, Bell or Hot] - L
Cucumber - L	Perilla
Daikon Radishes	Purslane - O (very high
Dandelion Greens	oxalate)
Dill	![Potatoes] - O, L
Fennel	Radishes
Garlic	Rhubarb - O (very high
Ginger	oxalate)
Green Split Peas - L	Rutabaga / Swede
Jicama	Sage

Meat

All refrigerated and fresh meats are high histamine unless they've been immediately frozen upon catch or slaughter.

All organic, freshly cooked, un-aged meat or poultry (not ground):

Beef (only if unaged and not ground)

Bison (only if unaged and not ground)

Chicken

Duck

Goose

Lamb

Liver

Ostrich

Pork

Quail

Rabbit

Salmon (frozen) - gutted and frozen within 30 minutes of catch

Turkey

RISKY

Fresh meat sold over the counter (no date on it)

Prepackaged minced meat

Venison

Game (ripening of meat)

Sweeteners

Camu Camu (rich in Vitamin C)
Coconut Sugar - Use sparingly
Homemade sweets with allowed ingredients
Inulin
Maple Syrup - Use sparingly
Monk Fruit - 100% no fillers
Stevia

Gluten Free Whole grains

Amaranth - O
Arrowroot Flour - O
Buckwheat - O, L
Buckwheat Flour - O, L
Buckwheat Noodles - O, L
Crackers - Gluten-free - likely O, L
Millet, grain soaked overnight, rinsed and boiled
Millet - O
Oats - O, L
Pasta - Gluten-free - likely O, L

Potato Starch - L
Quinoa - O, L
Rice, Black - O, L
Rice, Brown - O, L
Rice, White - O, L
Sorghum, Black - O
Sorghum, Popped - O (limit to 1/2 cup popped for lower oxalate)
Sorghum, White - O
Tapioca Starch or Flour
Teff - O

Foods to INCLUDE continued

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Resistant starches

These help feed good gut bacteria

Almond Flour – Blanched – O (very high oxalate)
Cassava Flour – O
Coconut Meat (fresh)
Flax Meal
Flax Seeds
Green Banana Flour
Hazelnut Flour – O
Hi-Maize Resistant Starch
Millet, grain soaked overnight, rinsed and boiled
Millet – O
Parsnips
![Potatoes] – O, L
Rutabagas
Sorghum
Sweet Potatoes – O (very high oxalate)
Sweet Potato Starch and Sweet Potato Starch Noodles (the starch is low oxalate, the flour is high oxalate)
Tiger Nuts
Tiger Nut Flour (Gemini Organics)
Turnips, Greens or Root

Nuts and Seeds

Almonds – Blanched – O (very high oxalate)
Almonds – with Skins – L, O (very high oxalate)
Brazil Nuts (only 3-4 nuts/day max) – O
Chia Seeds – O
Chestnuts (fresh) O
Coconut Cream
Coconut Meat (fresh)
Coconut Milk 100% Pure only (no additives)
Flax Seeds
Hazelnuts – O
Hemp Protein Powder – O
Hemp Seeds – O
Macadamias – O (if over 1/4 cup)
Pecans – O (if over 1/4 cup)
Pine Nuts – O
Pistachios – O (if over 1/4 cup)
Poppy Seeds – O
Pumpkin Seeds – L
Sesame Seeds – O
Sunflower Seeds – L
Tiger Nuts (not an actual nut, but a tuber)

Fats and Oils

Butter – Grass Fed
Coconut Oil – Extra Virgin
Flax Oil – Cold Pressed
Ghee – from Grass Fed Cows
Lard – (If kept frozen, and thawed for individual use)
Macadamia Oil
MCT Oil
Meat Drippings (fresh)
Olive Oil – Extra Virgin (use cautiously if DAO levels are very low)
Palm Oil – Extra Virgin (unprocessed)
Rice Bran Oil
Salad Dressings – Homemade with allowed ingredients
Sesame Oil
Sunflower Oil – Cold Pressed – use sparingly can be inflammatory
Tallow (If kept frozen, and thawed for individual use)

Fruit

All fruits should be fresh, not dried. Dried fruits are not only high histamine but can also carry mould.

![Apple]
Apricot
![Blackberry] – O
![Blueberry]
Cantaloupe (rock melon) – L
![Cherries]
![Cranberry]
Currant
Dragon Fruit
Figs
Fruit dishes made with allowed ingredients
![Grapes] (often have mould)
Honeydew – L
Guava – Ripe – O, VERY high oxalate
Kiwi – O
Loquat
Mango
![Nectarine]
Passion Fruit
![Peach]
![Pear]
Persimmons / Kaki – O
Plantain – O
Pomegranate – O
*![Raspberries] (limit to 1/4 cup)
Watermelon – L

Legumes / Beans

Note: Canned foods are high histamine so all beans and legumes should be cooked fresh.

Always soak overnight and pressure cook to reduce lectins and make them easier to digest.

Beans – Dried – Soak overnight in water and pressure cook. Freshly cooked (kidney, black, navy, etc.) (pressure cooked is best) – L, O
Garbanzo / Chickpeas – medium oxalate
Lentils (legumes are higher lectin, use in moderation) – soak overnight in water and pressure cook – L, O

Foods to INCLUDE continued

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Herbs and spices

Basil	Ginger
Bay Leaves	Lemongrass
Cardamom	Mint
Caraway	Oregano
Chives	Parsley - Flat Leaf - (curly is high oxalate)
Cilantro	Peppercorns, Pink - O
Coriander	Peppermint
Cumin - O	Rosemary
Curcumin Powder (can replace turmeric if oxalates are a concern)	Saffron
Curry Leaves	Sage
Dill	Salt - only unrefined like Real Salt
Fennel	Shallots
Fenugreek	Spirulina - O
Garlic	Tarragon
	Thyme
	Turmeric - O

Pantry/Baking

Pasture Raised Organic Eggs - All plain, cooked eggs (if tolerated)

Arrowroot - O, (medium to high oxalate)

Baking Powder

Baking Soda

Brown Rice Flour - L, O (much higher oxalate)

Cassava Flour - O (medium oxalate)

Cocoa Butter (white chocolate with no additives)

Cream of Tartar

Homemade relishes with allowed ingredients

Leftovers - freeze right after cooking

Potato Starch - L

Sweet Potato Starch

Tapioca Starch

White Rice Flour - L, O (medium oxalate)

Beverages

Coconut Water (fresh)

Coffee - preferably avoid caffeine. If you must drink coffee, then only lower histamine, mould free brands

Dandelion Root Tea

Herbal Teas, except those listed below

Juice - Pure freshly squeezed juices of allowed fruits and vegetables - limit fruit juice due to sugar

Mineral Water - Plain and carbonated

Water - with fresh squeezed lemon or lime (if tolerated)

Dairy & Alternatives

Note: Dairy is often not well tolerated due to lactose or casein intolerance. Avoid if you have a known sensitivity.

Choose products sourced from grass-fed, pasture-raised cows.

A2 milk - plain

Butter

Cream

Cream Cheese

Ghee

Goat Milk

Ricotta Cheese

Sheep Milk

Foods to LIMIT or AVOID

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Meat

Beef – Aged (99% of all beef is aged)
Bison – Aged (99% of all bison is aged)
Cured Meats:

- Bacon
- Salami
- Pepperoni
- Luncheon Meats
- Hot Dogs

Fish – All other
Ground Meats
Leftover Cooked Meats
Processed Meats

Fish

Canned fish
Marinated, salted, dried, smoked or pickled fish or seafood
Tuna
Mackerel
Herrings
Sardines
Anchovies
Mahi mahi
Shellfish (mussels, lobsters, crabs, shrimps, prawns)

RISKY

'Fresh fish' from over the counter or fish markets or in restaurants
Seafood

Dairy

Matured cheese
Hard cheese
Semi-hard cheese
Soft cheese
Blue cheese
Mould cheese
Aged Gouda

RISKY

Raw milk
Yoghurt
Kefir
Sour milk products
Acidified buttermilk
Sour cream
Crème fraîche
Feta cheese

Fruit

Avocado
Banana
Dates
Dried Fruit
Grapefruit
Jams, Jellies, Preservatives, Juices made with restricted ingredients
Loganberry
Orange and other citrus fruits
![Papaya] – O
Pawpaw – O
Pineapple
Plums
Prunes
Raisins
![Strawberries]
![Tomato] and all tomato products – L

Vegetables

All vegetables prepared with restricted ingredients
Eggplant – L, O
Fermented Foods
Green Beans, String Beans – L
Kimchi
Mushrooms
Peas – L
Squash, Pumpkin – O
Sauerkraut
![Spinach] – O (very high oxalate)
Soybeans / Edamame
![Tomato] and all tomato products – L

Histamine Liberators

Alcohol (ethanol) and its degradation product acetaldehyde
Strawberries
Nuts (walnut, cashews)
Seafood, shellfish, crustaceans: e.g. mussels, crayfish, crabs
Chocolate, cocoa
Tomatoes, ketchup, tomato juice
Citrus fruits

Certain active substances and additives in medicaments (some antihistamines, cromoglicic acid (or its salt sodium cromoglicate or cromolyn sodium), ibuprofen.)

Foods to LIMIT or AVOID continued

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Herbs & Spices

Allspice
Anise
Cinnamon
Chili Powder
Cloves
Curry powder
Cayenne
Foods labelled "with spices"
"natural flavours"
or "artificial flavours"
Mace
MSG
Mustard
Nutmeg
Paprika
Peppercorns – Black, Green,
White – may need to limit to small
amounts – O
Seasoning packets with
restricted ingredients

Sweeteners

Artificial Sweeteners
Cake Decorations
Candies
Confectionary
Corn Syrup
Desert Fillings
Flavored Syrups
Honey
Icing Sugar
Icing & Frosting
Molasses
Jams, Jellies, Marmalades,
Preserves made with restricted
ingredients
Spreads with restricted
ingredients
Sugar

Pantry/Baking

Bragg's Liquid Aminos
Bone Broth
Carob – L, O
Chocolate and cocoa – O
Coconut Aminos
Collagen
Gelatin
Gherkin pickles
Ketchup

Leftovers not frozen immediately after cooking

Miso
Nutritional Yeast / Nooch
Relishes and Olives – prepared
Soy Sauce / Tamari
Vinegars, including white,
champagne, and balsamic; apple
cider vinegar is lowest and
tolerated by some at 1tsp

Additives

Artificial Colors
Artificial Flavours
Calcium Chloride
Carrageenan
Citric Acid
Food Colourings
Hydrolyzed Lecithin / BHA,
BHT – Any food made with or
cooked in these oils
Lecithin
Maltodextrin
MSG
Potassium Sorbate
Potassium Triphosphate
Smoke Flavouring
Sodium Benzoate
Sodium Nitrite
Sodium Triphosphate
Xanthan Gum
Yeast and Yeast Extract

Beverages

Beer
Carbonated Drinks
Cider
Cocoa
Coconut Water – packaged
Drinks with "flavour" or "spices"
Flavoured Milks
Fruit Juices and Cocktails made
with restricted ingredients
Kombucha
Tea – All black, green, white,
rooibos tea
Wine
**All other alcoholic beverages.
The best tolerated alcohol: top
shelf plain vodka, gin, white rum,
silver tequila – avoid where
possible due to blocking of
histamine degrading enzymes.

Nuts/Legumes

Cashews – L, O
Coconut – Dried
Coconut Butter
Peanuts– L, O
Walnuts – O
Beans – Canned – L, O
Lentils – Canned – L, O
Peanuts – L, O
Soybeans / Edamame
Tofu

Fats/Oils

Fats and oils with color
and/or preservatives
Hydrolysed lecithin
Margarine
Salad dressings prepared
with restricted ingredients
If DAO levels are very low:
Olive Oil and Avocado Oil

FAQs

Yikes, avoiding histamine food looks tricky. How much total histamine can I consume in a day?

When we're thinking about histamine, don't think of it in the same way as we might an allergy - it's not so black and white. Instead, consider total load across time. Remember the 'histamine bucket' analogy? Consider how much it may take to fill YOUR bucket. The factors again are:

- how big is your bucket
- how quickly do you fill it
- how quickly does it drain

How can I eat lunch at work?

Working from home is the ideal situation while eating low histamine as you can prepare fresh protein. If that's not possible, select from the above lists and prepare a meal that doesn't contain a protein (unless you tolerate eggs well). You can ensure that your first and last meal of the day contain freshly prepared protein.

Can I buy meat from the supermarket?

Yes you can. In an ideal world, choose the meat that has the longest expiry date (therefore the freshest). When you get it home, if you don't eat it immediately, freeze it.

How long will I need to avoid histamines for?

This is a conversation to have with your practitioner. Sometimes a short trial of several weeks will be long enough for them to ascertain if there is evidence that histamines are a consideration for you.

Then we need to figure out why. The solution is not necessarily a long term low histamine approach - but we must pay attention and reduce load if your body is reacting.



FAQs

Why are oxalates and lectins identified in the lists?

Oxalates and lectins are two other commonly found food chemicals (food is made up of many elements!). It has been identified that lectins may trigger those with Mast Cell Activation Syndrome.

Oxalates are naturally occurring molecules that are found in plants and humans. Because oxalates help to get plants to dispose of extra calcium, many plant foods are high in oxalates. For some people, this can cause a problem.

Foods with high oxalate load travel through your digestive tract, bind with calcium, magnesium, potassium, and other extra build-ups of minerals in your intestines then leave your body through stool or urine. In someone who is already experiencing inflammation, have a compromised gut, chronic stress or liver or kidney problems, oxalates may add to your body's burden.

Never go completely low with oxalates as a rapid or complete elimination may make you unwell.

How do I handle my food?

Think fresh. If you've cooked a meal and there are leftovers, they are best frozen immediately and thawed quickly when you are ready to eat. With proteins, the closer to origin, the better.

That's why aged meats, canned meats and cured meats are on the restrict list.

Preparing your meals fresh and eating straight away limits the ageing time of your food, therefore minimising histamine load.



Tips for meat and fish

The bacteria in meat raises quickly, thus increasing the histamine burden. Here are some tips for handling and acquiring meat:

Buy pasture raised meat and wild caught fish

Pasture raised means the animals were raised outdoors and fed on grass, not grains (in the case of cattle). They are also raised without growth hormones or antibiotics. This method is more humane for the animals. By contrast, conventionally raised meat and farmed fish can have high levels of antibiotics, toxins, and growth hormones. These can all raise histamine levels. Please handle all meat, even if not organic, in the same way. Minimal ageing, quick freezing and not slow cooked.

Buy meat as fresh as possible or immediately frozen after slaughter

While its not pleasant to think of our meat having been slaughtered, it is our responsibility to acknowledge and respect where our food comes from. The closer to origin our meat is, the lower the histamine load. You might find a local farmer at a farmers market who can supply you with meat. In Victoria. [Cherry Tree Organics](#) are a good option (don't choose aged meat). Meat and fish build in histamine levels very fast, especially on unfrozen meat and fish. Meat and fish can sit unfrozen at the grocery store for a week or more. And who knows how old it was before it made it to the grocery store!

Avoid beef

Almost all beef is aged. That makes it very high histamine. It is usually best to avoid beef unless you can get it unaged and frozen immediately after slaughter. This is really rare and hard to find. You might be able to find some fresh game at your local market. [Yarra Valley Game Meat](#) supply game.

Avoid ground meat - even non-beef options

Ground meats collect bacteria faster because of increased surface area. Skip the pre-ground meats. Even the frozen ones. Instead, grind your own meats at home using a grinder/blender and cook or freeze straight away.

Avoid fish

In order to be safe for mast cell and histamine issues – fish and shellfish need to be gutted and flash frozen very quickly. Then the fish has to be frozen on the boat to keep histamine levels down. Otherwise, fish and seafood are some of the highest histamine foods! Fish and seafood that wasn't immediately gutted and frozen can be your worst histamine enemy.



Tips on getting started

- Explore your local organic, health food store and farmers markets
- Take time to check in with your health goals and your 'why' behind wellbeing
- Plan ahead - making a meal plan for the week can significantly reduce your food-stress
- Be prepared - take snacks with you when you leave the house
- Eat simple and 'clean' - less processed food and freshly cooked meals will support your overall health
- **Engage the support of your MFM Health Coach!**



Sources and references

- Food list and information about MCAS
 - <https://mastcell360.com/low-histamine-foods-list/>
- Histamine basics and key points
 - <https://mastcell360.com/low-histamine-foods-list/>
- MCAS
 - <https://theceliacmd.com/mast-cell-activation-syndrome/>
- Oxalates
 - <https://drbeckycampbell.com/oxalates-salicylates-histamine-intolerance/>

Low histamine is a sometimes complex issue. We hope this resource gives you the confidence to explore low histamine. We always encourage you to speak with your practitioner and health coach if you have any questions or concerns about this.