THE MENIERE'S – HISTAMINE CONNECTION

DISCLAIMER

THE THEORY

THE HEART OF THE MATTER: TOO MUCH HISTAMINE

Some may find their Meniere's issues may be coming from having significantly elevated histamine levels in their bodies. This is commonly known as "Histamine Intolerance".

People with high histamine overload experience at least one of these to a significant extent:

- Vertigo and Dizziness
- Skin rashes, eczema, dermatitis, psoriasis, general itching or hives
- Migraines or headaches
- Stomach issues such as acid reflux, chronic heartburn
- Asthma or common allergy symptoms such as runny nose, congestion, watery eyes
- Sleep distubances/insomnia
- Anxiety & irritability
- Low blood pressure or erratic heartbeat
- Urinary tract issues such as frequent urination or overactive bladder
- Tinnitus

Symptoms are highly variable because everything depends on where someone, genetically speaking, has higher concentrations of histamine receptors. Some may have more receptors in their mucous membranes (and have more seasonal allergy symptoms). Some may have more receptors in their skin (so would be prone to rashes) and others like us – in our inner and middle ears (potentially contributing to vertigo, tinnitus and aural fullness).

THE IMPORTANCE OF HISTAMINE

Histamine is not a bad thing. It's actually a vital substance with many important roles in the body such as:

- Its key role in the immune response. When a bacteria or virus is on the attack, histamine is released by our immune cells to increase the temperature of the affected area and the flow of fluids into the area (ie. inflammation) which allows the cells of the immune system to travel there fast and in large numbers. Histamine is one of the strongest contributors to inflammation in the body. Normal inflammation is an important protective mechanism.
- Its action as a neurotransmitter in the brain, especially around maintaining alertness and the "waking state"
- Its role in the production of hydrochloric acid in your stomach, which not only helps to kill bacteria in your food before it causes infection but also is critical as the first step of chemical food digestion in your body.
- The regulation of your body heat by its ability to dilate or constrict the smooth muscle in your blood vessels

When most people think about histamine they think negative thoughts because we mostly hear about it through its role in seasonal allergies. We reach for an "antihistamine" medication because

when histamine is released in response to a pollen "invader", the mucosal linings of the respiratory tract, throat and eyes become more permeable and inflamed (causing the runny nose, watery eyes, congestion, etc.). It's the same when we catch a cold (and our bodies respond to the virus).

A more extreme example of a negative histamine reaction would be anaphylaxis, the life-threatening situation where a nut or shellfish type allergy could cause someone's airways to swell to the point where they could not breathe.

So we all know first-hand how histamine can cause swelling and fluid retention in certain parts of the body. Since Meniere's is also known as "Idiopathic/Primary Endolymphatic Hydrops" (ie. a build up of fluid in the inner ear where nobody knows the cause) it seems to make sense that histamine might be the culprit. It is this swelling in the ear that causes wonky signals to go to your brain about your position in space (triggering vertigo) as well as causing pressure (aural fullness) and tinnitus... and long term damage to the ear resulting in hearing impairment.

HISTAMINE RECEPTORS: THE GOOD, THE BAD AND THE UGLY

There are receptors for histamine in pretty much every cell of your body. Receptors are little "antennae" on the surface of cells that substances floating around in the blood or intracellular fluids can bind onto (and each receptor matches to only one specific substance). Histamine, when it comes in contact with a cell, will bind to histamine-specific receptors presenting on the cell surface and this then "excites" or stimulates a reaction inside that cell. Different cells produce different responses depending on what they are and their location in the body.

There are four types of histamine receptors found on your body's cells. In summary:

- H1 type: the type most involved in the common cold and the one that causes the symptoms of seasonal allergies, it's found in smooth muscle of blood vessels, mucus membranes, epithelial tissues, brain neurons, and immune system cells
- H2 type: mostly for stomach stimulation of gastric acid secretion but also some immune cells and the smooth muscle of blood vessels (causing a dilation of blood vessels)
- H3 type: found in the brain where histamine will trigger messages about sleep & wakefulness, appetite and behaviour, and affects the levels of other neurotransmitters. It's involved in the "fight or flight" response in stressful situations
- H4 type: found in the intestines, trachea, liver, speen and lungs as well as immune cells

Guess what? Scientists have found **all four histamine receptor types in our inner ears**! So there is no question that your vestibular system is sensitive to histamine, but it remains an area that has been poorly researched and therefore not well understood. That's right – the scientific community knows that histamine affects the inner ear but nobody is delving into how this relationship may be causing Menieres and other vestibular issues. (It's not surprising that many of us feel like nobody cares....)

Interestingly, most of the anti-nausea and anti-vertigo medications that doctors prescribe are actually antihistamines! So again, it's not a stretch to suspect that histamine and Meniere's may well go hand in hand.

SO WHAT'S THE PROBLEM?

Our bodies are generally wonderful at self-regulating and we have mechanisms to get rid of the excess histamine after it no longer useful in fighting an infection. This is dependent on several enzymes in the body. Working properly, levels of histamine are kept in check. But if the enzymes are somehow not working well or the amount of histamine overwhelms the amount of these enzymes available to do the job....we get histamine overload causing all sorts of mischief!

Many people use the sink analogy. Picture a sink is filling up with water (histamine) from the tap but there is a drain (the enzymes working to clear it) where water is flowing out at the same rate therefore no overflow and no problem. But if something clogs the drain and the water can't leave fast enough, then the water overflows and big problems ensue.

The key is not eradication of histamine (because we do need it) but to return to a state of balance where histamine in = histamine out.

WHERE DOES ALL THIS HISTAMINE COME FROM?

Histamine comes from internal and external sources (more to follow).

We also make it ourselves in our bone marrow (and some of the bacteria in our guts do it for us too), using the amino acid histidine (found in all proteins). It is produced and then gets stored inside of immune system cells mainly, most notably ones called mast cells which are the first line of defense and also in other cells of the body such as "ECL" cells in the stomach or "TMN cells" in the brain, to be released as needed. But sometimes we are releasing way too much in response to things that are "normal". Certain foods for example are "liberators" of histamine meaning they don't contain histamine themselves but they are triggers for the body to release histamine when you eat them. Viruses, environmental factors, etc. can also stimulate mast cells to release.

Histamine is also present in many foods. Normally, it gets broken down in the gut before we absorb it but sometimes this doesn't work happen as it should or we take in way more histamine in the food than our body can break down effectively and the histamine ends up being absorbed. It then enters our bloodstream, binds to receptors and off we go....

GETTING RID OF HISTAMINE NORMALLY: THE ENZYME CONNECTION

There are enzymes in our bodies that are responsible for removing histamine from our bodies and preventing overload. Any deficiency or impairment of their function results in histamine intolerance. These four enzymes are:

1. **DAO** (diamine oxidase): Is the main enzyme that breaks down histamine from external/food sources. This is made by the cells of your intestinal lining and is responsible for breaking down the histamine that is already formed, coming into your body through your food. This enzyme stays in your gut and therefore is not useful for breaking down histamine that is released by your cells inside your body.

2. **HNMT** (histamine N-methyltransferase): this is the main enzyme, widespread throughout the brain and body, that breaks down histamine in our tissues.
3. **MAO** (monoamine oxidase): A lesser player mostly found in the brain.
4. **NAT2** (N-acetyltransferase 2): Also a lesser player found in the liver and the gut.

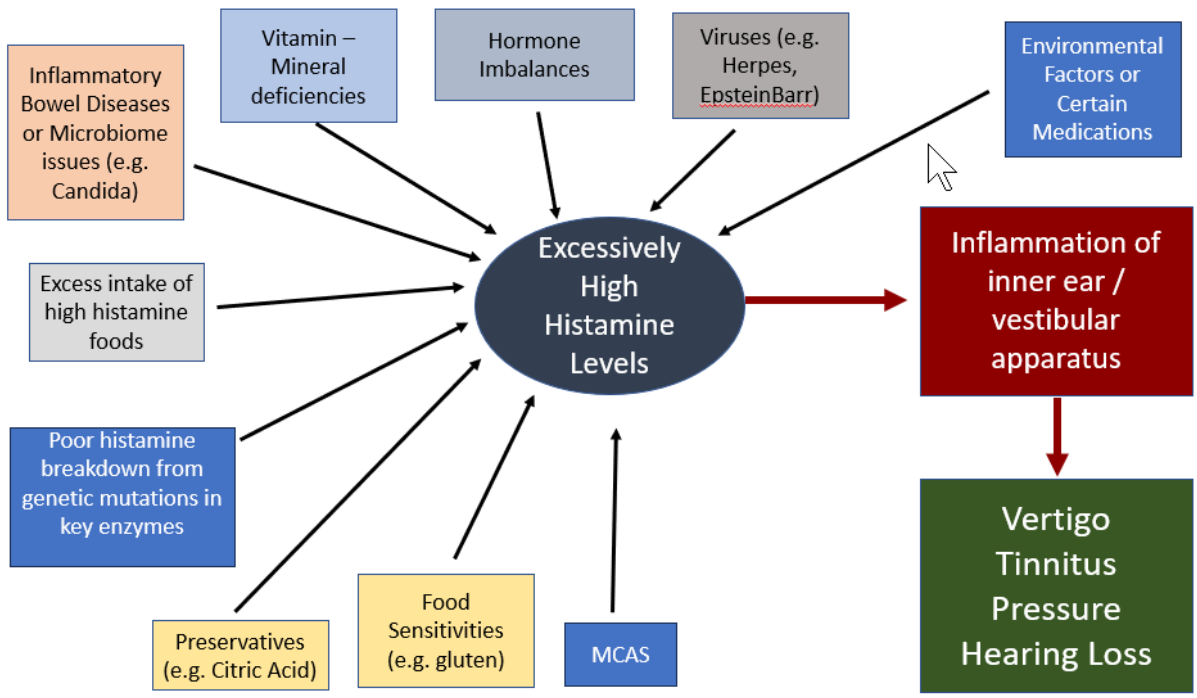
Disadvantage 1: we now know that there are genetic differences in how well these enzymes work in different people. You may have a mutation in the gene that codes for one of these proteins that makes it a "lazy" enzyme, not doing its job properly. That results in you not being able to clear histamine from your body as effectively as the next person. (If you are interested, there are genetic tests available that can confirm if you are "enzyme challenged" although to be honest, if you are reading this, you likely are.)

Secondly, these enzymes require cofactors to work properly. These are other substances such as certain vitamins or minerals. If your diet is deficient in any of these, it can turn off or slow down the functioning of the enzyme.

Side Note: If you want to learn more about the particulars of the specific genes (e.g. AOC1 for DAO production or MTHFR and its relationship to HNMT) or the biochemical pathways that are involved in histamine metabolism (e.g. the methylation cycle), there is a wealth of information online. But I've summarized all you need to know here without going deep into the biochemistry of it all.

There are some other causes of enzyme malfunctions but this will be discussed below.

SPECIFIC CAUSES OF HIGH HISTAMINE



There are many reasons you may be dealing with histamine intolerance and this is contributing to your vestibular issues.

These include:

Genetics: A primary cause. You may have an ineffective type of DAO enzyme or HNMT enzyme in your body to do the critical job of breaking down the histamine. You were dealt a bad card here in the DNA lottery.

High intake of high-histamine foods. Another major factor. You may be taking in more histamine than your body is able to break down quickly enough. It's like city crews trying desperately to clear the water during and after a major flooding event. Just a situation of overwhelming the available resources.

Inflammatory Bowel Diseases: Like Crohn's or Ulcerative Colitis which cause damage to the intestinal lining and thereby reducing the amount of DAO enzyme produced by these compromised cells of the gut.

Microbiome imbalances: We have trillions of bacteria and yeasts living in our digestive systems. Too many of the "bad" types and not enough of the "good" types can result in intestinal cell damage and reduced DAO enzyme, and some of these actually can make additional histamine in your gut. They also keep the immune system on "high alert" making it more likely to unload histamine for any number of other reasons. Not only limited to the intestines, another bacteria called H. pyolori in your stomach can also contribute to histamine issues.

Vitamin and Mineral Deficiencies: Many vitamins and minerals are critical for ensuring proper histamine metabolism in our bodies and reducing the inflammatory response. Quite frankly, most of us are deficient in one vitamin or another because of the difficulties in getting the right amounts of all the vitamins and minerals we need from food alone.

Hormone Imbalances: High stress? Then that results in high cortisol levels which trigger histamine release in our bodies. Hypo or Hyper-thyroid? Both conditions monkey with histamine release and metabolism. Too much estrogen or an imbalance between estrogen and progesterone? Guess what? Causes a ready release of histamine from mast cells. And so on....

Viruses: Everyone knows that a virus will trigger a histamine response in the body. Just think of the common cold and all the miserable symptoms that come with that. Well, there are several viruses that once we are exposed, happily set up shop in our bodies for the rest of our lives such as the Herpes viruses (both cold sores and genital herpes types) and the Epstein Barr virus. They may be dormant and not causing trouble most of the time but when they wake up.... Watch out!

Environmental factors: Heavy metals, mold exposure, many chemicals – can all trigger a release of histamine in the body.

Certain medications: Medications such as NSAIDs, antacids, antibiotics, and long term antihistamine use can also trigger histamine release and/or result in a decreased activity of the enzymes that break down histamine.

Food sensitivity: People may have immune reactions to various foods for example gluten. This then results in a histamine release and immune response (inflammation) and your ears can get caught in the crossfire.

Preservatives: There are so many questionable substances added to our foods and many of these can trigger the release of histamine. Citric acid, for example, is found in just about everything packaged or pre-bought and in virtually every drink on the market. It can be a powerful histamine release trigger. Refined oils (e.g. soybean oil or sunflower oil) as well as the various chemicals that you can't even pronounce can do the same.

Mast Cell Activation Syndrome (MCAS): As we've discussed, mast cells release histamine. But people with MCAS have ultra sensitive mast cells that are highly unstable and release histamine (and other inflammatory chemicals) almost on a whim, seemingly for no reason at all.

TURNING THINGS AROUND

(ie. So what should you do if this sounds like it's making sense?)

1) FOLLOW A LOW HISTAMINE DIET

General Rules:

1. It takes time (several weeks in fact) for histamine to clear out of your system and come down to a level where you will start to feel better. Give it a month to see improvement and up to three months to get to a state of remission. Do not get discouraged. Every day you'll be getting incrementally better. It just may take a while to get to the "tipping point" of where you're like "Wow! I feel like myself again!"
2. Fresh, unprocessed & homemade food is always best. Keep ingredients simple. This gives you maximum control. Avoid canned, dried and premade processed foods (that by definition are loaded with preservatives) that can trigger histamine reactions.
3. This is about reducing your overall histamine load as much as possible, this is not about perfection. It's a fact that almost everything is going to cause some increase in histamine. The trick is keeping levels as low as you can so your body has the time to deal with what's there effectively so be wise, be prudent with your choices and eliminate the obvious offenders. You're trying to not overwhelm your body's ability to clear the histamine out. "Low, low, low" is the best mantra because "No, no, no" is not going to keep you on this program for long term success!
4. If you know you might be in a situation where there may not be the best of foods available (e.g. at a wedding or social event), pack some DAO enzyme with you to take with the meal and be as good as possible in the days before and after.
5. Nothing is absolute. We all have our own individual reactions to things. Something that might be awful for me might be fine for you. Use your intuition and pay attention to how you feel after eating certain foods. We have different genetics, health situations and other factors to consider.
6. Read labels on your foods! Review the list of ingredients to find offenders that will sideline your progress (special mention: citric acid). Preservatives and additives are bad. Period.

7. Freeze leftovers quickly, avoid leftovers sitting in the fridge. Sitting around gives bacteria opportunity to convert histidine to histamine and increase the levels in the food.
8. Avoid meats, poultry, fish that is soon to expire (no more yellow sticker "Clearance" meats!)
9. Avoid cultured and fermented foods (alcohol, vinegars)
10. Avoid citrus fruits in particular (lemons, limes, oranges, grapefruit, tangerines, mandarins, clementines, etc.)
11. When eating out, ask about ingredients if you don't know what is used in the cooking process. For example, Greek & Italian food tends to be heavy on lemons and tomatoes. Indian food has tomato, tamarind and lemon juice. Mexican food often incorporates lime juice. American food is heavy on condiments made with lemon juice and many preservatives.
12. Get organized and prepare in advance. You can use the weekend to cook foods in batches then freeze for during the week. There's nothing worse than opening the fridge to see nothing you can eat – stock up on things you can have that will fill your belly and keep your mind in a good place!
13. If there is any food that causes a tingling in your mouth when you eat it – that is a very clear histamine reaction… avoid that food! (Note not all foods will but if it does – that's a sure thing!)

	ENJOY	MAYBE (Limited amounts or personal tolerance)	AVOID
Seafood & Fish: Wild caught and very fresh	Frozen whitefish (e.g. halibut, cod, etc.) cooked quickly after thawing Very fresh white fish	Frozen salmon, trout, etc. thawed and cooked quickly Fresh salmon	Canned fish, aged fish, smoked or pickled fish Shellfish (crab, shrimp, lobster, mussels, clams) Tuna, mackerel, herring, sardines, mahi mahi, anchovies
Poultry: chicken, duck, turkey	Fresh chicken, turkey, duck, etc.	Frozen but thawed and cooked quickly	Deli cuts of poultry (e.g. sliced & smoked turkey breast)
Meats: beef, lamb, pork, bison, etc.	Fresh beef, pork, lamb, goat, bison, etc.	Frozen meat – thawed and cooked quickly Fresh ground meat	Processed & deli meats and sausages, bacon Deli, smoked or cured meats (ham, salami, etc.)

			Meats with additives like sulfites Canned meats Marinated meats (unless done yourself with approved ingredients)
Eggs & Meat Alternatives	Egg yolks	Egg whites/whole eggs	Soy including tofu, tempeh, soy protein powder, soy milk and soy cheese, etc.
Dairy	Milk and cream Cream cheese High quality ice cream without additives, nuts, chocolate or fruit flavours (vanilla best) Fresh goat cheese	Sour cream Buttermilk	Yogurt, especially flavoured kinds Kefir Aged and hard cheeses (e.g. parmesan, blue cheese, brie, cheddar, gouda, etc.) Flavoured milks (eg. Chocolate, strawberry) Cottage cheese Processed cheese
Dairy Alternatives			Sherbet, Sorbets Canned coconut milk
Fruit	Apples Blueberries Dates Honeydew Melon Pears Watermelon	Plums Pomegranates Cherries Cantaloupe Grapes Papaya Peaches Lychee Nectarine	All canned fruits All dried fruits (incl. raisins, dates) All jams & jellies Strawberries Apricots Avocado Bananas Cranberries Lemons Lime Mandarins Oranges Strawberries Tangerines Pineapple Papaya Plantain Rhubarb

			Passionfruit Redcurrant Blackcurrant Gooseberries Grapefruit Guava Kiwi Mango Oranges Pears Overripe fruit Raspberries Pineapple Tamarind Starfruit
Vegetables	Fennel Artichoke Arugula Asparagus Beets Bell peppers Bok Choy Broccoli Brussel Sprouts Cabbage Carrots Cauliflower Celery Cucumber Garlic Ginger Green beans Greens (collard, mustard, beet) Jicama Kale Kohlrabi Leeks Lettuce Mushrooms Onion parsnips Pumpkin Radish Red bell pepper Rutabaga Rhubarb Swiss chard	Squash (acorn, spaghetti and butternut) Potatoes Okra Sweet Potato & Yam Garlic	Eggplant Spinach Tomatoes (esp. paste, sundried, canned or as a sauce) Hot peppers (e.g. cayenne) Pickles Beet greens Swiss Chard Beets Hearts of Palm Jerusalem artichokes Fermented foods: Saurkraut, Kimchee

	Turnip Watercress Water chestnuts Zucchini		
Grains & Flours (incl. Baked Goods & Pasta)	Corn Oats Rice Spelt Buckwheat Coconut flour Potato starch Corn starch Seed Flour (pumpkin seed, flax) Cassava flour Almond flour	Brown rice Chickpea flour Millet Oats Rice Flour Tapioca flour	Wheat (incl. breads, pasta etc. made with wheat flour) Sourdough breads
Sweeteners	Agave Honey Maple syrup	Stevia	Aspartame Acesulfame K Saccharine
Beans		Chick peas Black-eye peas Yellow Split peas	Lentils Lima beans Soy (including edamame) and soy products (see above) Other beans in general, especially if canned (e.g. red/white kidney beans, pinto, cannellini, etc.)
Fats & Oils	Butter Ghee Coconut Oil Olive oil Avocado oil Olives (not in vinegar) MCT Oil Flax Oil Hemp Oil		Sunflower Oil Soybean Oil
Spices	Basil Chives Cilantro Dill Lemongrass Oregano	Peppermint Ginger Garlic, Garlic Powder Onion Powder	Anise Cinnamon Curry Cloves Nutmeg Chili powder

	Thyme Rosemary Sage Salt		Cayenne Cocoa Cumin Curry powder Ginger Onion powder Turmeric Paprika MSG Allspice Caraway seeds
Condiments	Coconut aminos (a really good substitute for soy sauce!)	Apple cider vinegar Pure white distilled vinegar	Ketchup Mustard Prepared Mayonnaise and salad dressings Relish BBQ Sauce Fish Sauce Soy sauce Most vinegars Worcestershire sauce
Nuts & Seeds	Fresh coconut (not dried. flaked or canned coconut milk) Pumpkin seeds Flax seeds	Sunflower seeds Chia seeds Hemp seeds Sesame seeds	Walnuts Macadamia Cashews Chestnuts Peanuts Almonds Sesame seeds Buckwheat Brazil nuts Hazelnuts Pecans Pistachios Poppy seeds Dried, flaked, shreddd coconut Canned coconut milk
Beverages	Water - plain Chamomile tea Rooibos tea Other herbal teas (e.g. ginger) without extra citrus ingredients or “natural flavours” (read labels)	Rice milk Oat milk Coffee Green tea Black tea Plain carbonated water (no flavours)	Alcohol of any kind, especially beer and wine Energy Drinks & Sports drinks Herbal teas with citrus ingredients or other ingredients that are not compatible Flavoured waters Vitamin water

	Coconut water with no preservatives Juices you make yourself with allowed fruits and veggies		Fruit juices Soft drinks
Additives		"Natural flavouring" (often is actually citric acid) Guar Gum Xanthan Gum Carrageenan	Citric acid Yeast Extract Artificial colours and flavourings Hydrolyzed Vegetable Protein Soybean Oil Sunflower Oil MSG Lecithin Nitrites Sulfites Soy lecithin
Other snacks			Potato chips Sorbets Chocolate
Miscellaneous	Homemade chicken or meat stock that is frozen soon after preparation		Collagen protein Gelatin Bone broth

2) TAKE SUPPLEMENTS

Supplements can be a key tool to:

a) Break down histamine directly
b) Prevent mast cells from releasing histamine
c) Contribute the proper functioning of the enzymes that break down histamine
d) Reduce inflammation in general

Here is a list of helpful supplements. You do not have to take all (I just want to make sure I have a comprehensive list). Many of them you can get all combined together in one good multivitamin anyway. I will make some specific recommendations for starting at the bottom of the chart to keep it simple.

These all have significant benefits beyond histamine and Meniere's Disease. You can look up each one and read about the many other great things they each do.

SUPPLEMENT	Stabilizes Mast Cells	Supports Enzymes that Break Down Histamine	Breaks down Histmine Directly	Reduces Inflammation in General	Supplement Notes	Typical Recommended Dosage
DAO Enzyme			YES		Take with food (or no more than 15 minutes before meal)	As directed on bottle, usually two with meals.
VITAMIN C	YES			YES		1000-3000mg / day
QUERCITIN	YES					500 mg twice a day
VITAMIN B6		YES			Look for a multi that has the pyridoxal-5-phosphate form of B6,	About 50-75 mg/day.
FOLATE		YES			Look for a multi that has the methylfolate form.	Between 400-800 mcg.
COPPER		YES			Have your blood levels checked as some people have excess copper in their bodies and won't want to take more. Look for a multi that has copper in it about 1mg. Or supplement separately.	1-2 mg / day.
GLYCINE		YES			Look for a multi that has TMG (trimethylglycine) in it.	Find in your multi or supplement separately as directed
CREATINE MONOHYDRATE		YES				5 g/day
METHIONINE		YES			Usually taken in supplement form as SAMe (S-Adenosyl-Methionine)	200-400mg of SAM-e/ day
FISETIN	YES					As directed
CHOLINE		YES			Usually taken as phosphatidylcholine (derived from sunflower not soy)	1200mg/day

SUPPLEMENT	Stabilizes Mast Cells	Supports Enzymes that Break Down Histamine	Breaks down Histmine Directly	Reduces Inflammation in General	Supplement Notes	Typical Dosage
MOLYBDENUM		YES			Look for it in your multivitamin	100mcg – 150mcg.
LUTEOLIN	YES			YES		As directed
EPA/DHA	YES			YES		As directed
VITAMIN B2 (Riboflavin)		YES			Look for it in your multivitamin	As directed
VITAMIN B12		YES			Look for it in your multivitamin in the form of methylcobalamin	As directed
RESVERATROL	YES					As directed
Vitamin A	YES				Look for it in your multivitamin	5000 iu/day
Vitamin D	YES			YES	Look for it in your multivitamin or take extra if not enough there	2000 iu/day
Zinc	YES	YES			May get in multivitamin	25mg/day
Magnesium		YES			Some will be in multivitamin; may want to take extra in form of Magnesium Bisglycinate	150 - 200mg/day
IRON		YES			Do not take unless you have checked your blood levels and are shown to be deficient. If so, can look for a multi that contains iron or take as a separate supplement with food.	As directed
MISC: **ECGC** **MILK THISTLE** **CURCUMIN** **ASHWAGANDA** **NETTLE**	YES				Miscellaneous herbs and extracts that appear to stabilize mast cells and have other great benefits to health (liver health, kidney health, antioxidant, etc.)	As directed

SPECIFIC SUPPLEMENT RECOMMENDATIONS TO START

It's difficult for someone to take everything above. The most important are:

1. **DAO enzyme** taken as directed. Two main recommended brands for this:
    i. Histamine Digest by Seeking Health
    ii. Food Sensitivity Relief by Life Extension Foundation

2. **Comprehensive High Potency Multivitamin.** Consider the Two Per Day Multivitamin by Life Extension Foundation. This covers many of the items found above such as the B vitamins and Folate, molybdenum, magnesium, zinc, Vitamin A, Vitamin D and more. It contains the forms of B6 and B12 that are preferred (as noted in the chart above, pyridoxal-5-phosphate and methylcobalamin) which is important....most don't.
3. **Vitamin C**: many brands available.
4. **Quercitin**: many brands available. Make sure nothing else added to it.
5. **Copper:** Only add if not already in your multivitamin (it is not in the Two Per Day one mentioned above). Many brands available. This is perhaps not necessary for people who eat a lot of organ meats, nuts, seeds, beans and shellfish... but since most of these are restricted with this low-histamine diet – you may not be getting enough there so supplementation may be necessary. Your levels can be tested on a blood test (maybe also do Zinc levels at the same time as these two balance each other)
6. **TMG (Trimethylglycine**): If not already in your multivitamin (it is not in the Two Per Day one). Many brands available.
7. **Creatine Monohydrate**: Look for a 100% pure one – nothing added
8. **SAM-e**: many brands available
9. **EPA/DHA (aka Salmon Oil or Omega 3 Essential Fatty Acids)**: many brands available. This is just plain good for your health and just about every health condition going.... Recommended for just about every human to maintain good health.

iHerb.com is an excellent company for a wide selection of supplements and good prices. You can get all the items above there. Though depending on what country you live in they might have importing restrictions and you'll have to source elsewhere. Other companies to consider are Swanson Vitamins and Vitacost though depending on where you live there may be shipping considerations/restrictions.

Tip: Consider also getting a 100% pure Whey Protein Isolate powder (read labels, needs to be 100% whey protein with nothing else added including no "natural flavours". This can be a mainstay of breakfast and snacks (smoothies made with blueberries or other "approved fruit"). But it must be unflavoured and with nothing else in there (I mean it!). Hard to find but look at Protein Co. "All Natural Whey Protein Isolate". Whey Protein (unflavoured) is cheaper than the Isolate version but then it has lactose in it (not in the isolate) which some people may find doesn't agree with them.

3) AVOID CITRIC ACID

I'm shining a spotlight on this because it is the most critical piece of the puzzle for me and at the heart of my Meniere's. So it may be for you.

Citric acid is found naturally in nature as the main acid in citrus fruits (obviously) but in almost all fruits to some extent.

But it is also a potent histamine liberator and is one of the most prevalent preservatives and flavourings added to food today. It's in virtually every processed food and many household and personal products. The form that is added to our food and household items is a manufactured form, not from lemon or limes but rather made from biofermentation of Aspergillus niger or "black

mold" which is a horrible allergen for many people. It is believed to be the cause of cause of some strong inflammatory reactions.

Read your labels! Look for not only "citric acid" but also "citrate" such as "sodium citrate". You'll also find that it's pretty much in everything, everywhere. Often "natural flavour" is another word for.. you guessed it....citric acid!

It's in most canned items, 99% of all drinks you might buy including any type of flavoured waters, and other packaged foods.

It even sneaks into dairy items like cottage cheese, some margarines (use real butter!), creamers, etc. so again, read those labels! In fact it's added to the cheese making process often to improve coagulation. Any fruit flavoured products? Guaranteed to have citric acid.

Back to the drinks – there are pretty much no drinks that don't contain citric acid except for water, pure coconut water, milk and if you need a soda – Coke (or Coke Zero, not Diet Coke). It's slim pickings! All those vitamin waters, electrolyte drinks, Perrier-type waters with any flavour, even kombucha – all citric acid!

And immediately throw out any "rinse aid" that you are using in your dishwasher – this is pure citric acid that you're coating your dishes, cutlery and glassware with! (Added because it removes hard water stains). It's also in all the dishwashing liquid soaps and the dishwasher pods. It's harder to do away with this but keep use to a minimum, rinse REALLY well (or even twice in the dishwasher, the second time on rinse only). This is because it "softens water"..... but at what cost?

All the dishwashing detergents and even any kind of sprays that you might use to "remove pesticides" off your produce – have citric acid. Drop those sprays and use dishwashing detergent sparingly.

It's also in chewing gum and hard candies so get rid of those!

While impossible to fully remove citric acid from your life but where you find it and can remove it- do so and if you can get the load way down, you may find reprieve!

If you find that this may be a key for you too, a great resource is Vicki Clarke's site: https://citricacidallergy.wordpress.com/staying-alive/

FAQs

THIS DIET IS TOUGH. DO I HAVE TO FOLLOW IT FOREVER?

Take heart! This diet appears to be really strict but follow it to the **best of your ability** for the first month or so until you start feeling better. The more you can do the better you should feel but this has to be balanced with real life too. Just do the most that you can. And when you get to the point where you are feeling well again, you can start experimenting or having a few cheats here and there to maintain your sanity. (And use your intuition.) So it's not like you can never have a potato chip again! Just not every day. But by going "full force" at the start you are proving to yourself that this program has merit, and let's be honest, who doesn't want to feel normal as quickly as possible?

At restaurants you now know what to avoid and what to order. And not to be shy about talking to the server about modifying the order (like getting sauce/dressing on the side) so that you have better control. Pack your DAO enzyme and take at mealtime. Again, it's impossible to eliminate all sources of histamine but being aware of it, making conscious choices will help you keep the levels low and allow you to enjoy a little reasonable "cheat" once in a while. You will find the right balance.

Finally look for substitutions! For example, use coconut aminos in place of soy sauce. Great for stir frys or even a meal of sushi. Real butter in place of margarine (with processed oils). And so on....

BUT WHAT ABOUT SALT? EVERYONE TELLS MENIERE'S PATIENTS TO SEVERELY RESTRICT THEIR SALT!

There is no question that the average person gets far more sodium in their diets than the recommended 2300mg/day. So to keep watch on one's salt (ie. sodium) intake is worthwhile and to bring your intake in line with this recommendation is sound practice.

However, is it really a cause of MD? Is salt the demon it's made out to be?

The first published recommendations from the medical community to restrict salt came out in 1929. And almost a century later we're still here.

How is it we are supposed to retain water and experience swelling in the vestibular system from sodium.... only in our ears but not anywhere else? If you have fluid retention you should be experiencing signs of that especially in your legs, arms and abdomen. It's a whole body experience.

Also, sodium is very important in the body and having not enough is dangerous (and can kill you!). Far too many people with MD are severely limiting their salt intake to well beneath the 2300mg recommendation and they are putting their overall health at risk. It is an electrolyte critical for blood pressure maintenance (and if your blood pressure is too low... you get dizzy), fluid and electrolyte balance, keeping your nerves and muscles working properly (including the pumping of your heart), etc.

What about potassium? Sodium and potassium balance each other out in the body. In the same way that the average North American diet has too much sodium, it is also woefully deficient in potassium! The recommended daily intake of potassium is approximately 4000 mg/day.

Everything in the body is about balance and the relationship between sodium and potassium is no exception. In my opinion, the better approach may be to not drastically cut sodium to such low levels that you're deficient but to bring sodium levels to the recommended intake of 2300 mg/day and then also bring up the potassium to 4000mg/day. Should we maybe be talking more about the balance between these two critical elements rather than severely restricting one with no thought of the other?

In addition, there is no doubt that many people with MD have benefited from a reduced salt diet, some even going as far as to say they have been "cured". But when you start looking at high sodium foods that they would have eliminated (like processed foods, cured meats, cheeses, etc.) many of these are the exact same high histamine foods that should be eliminated .... So the improvement in their symptoms may be for reasons of histamine, not sodium. Also, often to control the sodium, people have to make their own food, fresh and simple, without added crap....same as on the diet recommended here. So is it the sodium restriction that is giving the benefit or is it the unintentional histamine restriction? Food for thought...

Tip: Salt substitutes are potassium chloride. Mix half and half with regular salt for food.

Tip: Coconut water (look for 100% pure with no preservatives or sugar!) is an excellent source of potassium and is a good substitute for all those citric-acid laden other beverages that you should be avoiding. Just note that you don't want to be over-drinking it either and having too much potassium and anyone with kidney issues knows to be careful with their potassium intake.

IS THERE ANY TESTING I CAN DO?

It's a good idea to test for your nutrient status, such as for levels of Vitamin D, Zinc, Copper, Vitamin A and iron... all may offer clues into deficiencies that can worsen your symptoms.

There are tests for DAO and histamine levels but testing is limited and they may not be entirely reliable. So I wouldn't rush out for those.

There is genetic testing that can tell you if you have issues with histamine and other enzyme activity throughout your body as well as a lot of other key info about your health. One option is Love My Health through DNA Labs: https://dnalabs.ca/lovemyhealth/

I HEARD THAT MENIERE'S MAY BE CAUSED BY VIRUSES – IS THERE A CONNECTION?

There are many people in the Meniere's community that firmly believe that viruses are to blame for MD. And they may be right. But we all know what happens when there is a virus in our bodies. Just think of the common cold. These viruses trigger a release of histamine and it's that histamine that causes the accompanying misery of the runny nose, congestion, watery eyes, etc.

So two things can be true at once. There may be a virus and it may be stimulating histamine release. Maybe your body could handle the histamine release being triggered by the virus if that were the only issue and it didn't have all the other sources of histamine to deal with (like coming in from foods or whatnot). Certainly improving the body's own ability to break down histamine as fast as possible, regardless of source, is a worthwhile goal.

Usually supplementation with Lysine is a cornerstone in the anti-viral approach. Lysine interestingly may actually be beneficial from a histamine perspective too as it appears to limit the release of histamine in the body. Not to mention the other supplements such as Vitamin C that are always recommended in an anti-viral protocol but that are also key antihistamines.

So by all means, continue to pursue an anti-viral program because that reduces the trigger too. It just may not be enough and you may find you benefit from tackling the overall histamine load as well.

HELP! I DON'T KNOW WHAT TO EAT... I NEED INSPIRATION!

At first, all this seems overwhelming and it's also easy to feel lost.

Start by just keeping things simple. Baked/grilled/fried protein + some vegetables as a side and a starch if you want. Fresh foods, simple preparation. And it's not a diet. You are not counting calories so enjoy the allowed foods that you love. Use the allowed spices and don't over-restrict salt.

Try fruit smoothies made with blueberries or other approved fruits + a scoop of very pure whey protein isolate powder (see above for brand recommendations as many of them have unwanted chemicals added) some 100% pure fibre powder to help you not feel hungry and keep your gut healthy + some ice for thickening + some sweetener (like honey or stevia if desired.

Make a batch of some soup or stew and freeze individual portions (quickly!) so there is always something in the freezer to heat up in the microwave.

Try stir frys – some type of protein (beef/chicken/fish) with lots of veggies and some coconut aminos in place of soy sauce.

There are resources online where recipes are shared, just search "Low Histamine Recipes" or "Histamine Intolerance Recipes". And you can now get actual cookbooks. Here are some that you may want to look at:

- Low Histamine Cooking in your Instant Pot by Dr. Becky Campbell
- Histamine Haven: The Essential Guide and Cookbook by Tracey Reed and Luka Symons

OMG. WHY DO I HAVE TO TAKE SO MANY PILLS?

Everything on the Supplements list above is found naturally in foods or produced in our own bodies. Nothing is a pharmaceutical "created" drug that can carry numerous side effects.

These are "supplements" meaning they are supplementing your **diet**. You could get most of these things from diet alone but I can't think of anyone who has the time to research how to get adequate amounts of every single vitamin and mineral from diet alone, not to mention prepare, cook and eat all that food! It's just too much so at least taking a good multivitamin ensures that all your nutritional needs are met and you don't slip into deficiency. You are covering your bases.

Some of the recommended supplements are there to provide you with an additional "boost" where you are taken beyond "deficiency prevention" and into now enjoying the health benefits of having optimal amounts of that substance.

SO WHY CAN'T I JUST POP AN OVER-THE-COUNTER ANTIHISTAMINE?

You may consider the use of over-the-counter antihistamines like Claritin or Benadryl in the short term but long term you can build up a tolerance to them. And while they are generally considered safe, some people do experience side effects (drowsiness is one of them for certain types, which can be dangerous for driving and other situations). They can also cause dry mouth which then can lead to dental issues (increased risk of cavities for example). So it's better to just use them sparingly and as needed.

Consider adding a Claritin (which is a non-drowsy type) as needed, for example in the early days of this program to kickstart things or if you are in an environment where you can't easily control the food available or its preparation (such as on vacation or if attending a social function). Carefully considered usage is okay and again, check with your doctor if there is any reason this would not be right for you.

ARE PROBIOTICS ARE GOOD FOR ME?

In the "Causes" section we talked about microbiome imbalances. And you've probably heard of probiotics and been told they are good for you and you should take them. Which is YES for almost everyone in general to maintain good gut health. But what are they and why is it important to know which to take?

Again, in our intestinal tracts there are trillions of microscopic bacteria and yeasts living there, living their best lives. In a healthy person, the types that are beneficial for our health (that make vitamins for us, help us digest food, help the immune system, reduce inflammation, etc.) far outnumber the types that cause disease and illness. However, because of various dietary and lifestyle factors, the balance can easily shift and the bad take over, far outnumbering the good and we end up with unpleasant symptoms including damage to our intestinal tracts, more inflammation, and increased histamine levels.

The good news is that we can buy capsules of "the good guys" that you can supplement daily and safely. These are the probiotics. But for someone who has high histamine levels, it's important to look for specific types of bacteria because these can actually help break down histamine. These include (best in bold):

- Bifidobacterium bifidum
- Bifidobacterium infantis
- Bifidobacterium longum
- Bifidobacterium lactis
- Lactobacillus rhamnosus
- Lactobacillus plantarum
- Lactobacillus salivarius
- Saccharomyces boulardii

Similarly there are some species that produce histamine! So if these are in the product you are looking at, avoid:

- Lactobacillus bulgaricus
- Lactobacillus casei
- Lactobacillus delbreuckii
- Lactobacillus helviticus
- Streptococcus thermophilus

Avoid probiotic (fermented) foods because they are high in histamine. They're great for people who have normal histamine degrading abilities but not for us.

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