SNEAKY FOOD INGREDIENTS THAT TRIGGER MIGRAINES



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UNDERSTANDING MIGRAINES

Anyone who has experienced the throbbing pain of a migraine, the sensitivity to light and noise, and nausea, knows how debilitating it can be. For many, the choice to medicate can be a difficult one. In a study, published in *Headache: The Journal of Head and Face Pain*, two-thirds of the participants in a study either didn't take medications or delayed taking them due to concerns about the side effects. And of equal concern is the fact that these medications do not get to the root of the cause for migraines.

Those who struggle with migraines are often aware of what their triggers are. Some common everyday exposures include exercise, medications, hormones, sleep deprivation, or chemical smells and exposure. Other common triggers include trigger foods, drinks (such as alcohol), or dehydration. With regard to food, it appears that avoiding those foods that one is intolerant of can have an effect on decreasing migraines. In one small-scale study, 87% of participants were able to successfully resolve their headaches by eliminating certain foods. The most common food item removed from the diet was caffeine. There was, however, also a statistically significant response to eliminating cocoa and cheese. These three items do tend to be high migraine trigger foods. Other foods that are known to be linked to migraines as well include citrus fruits, nuts, soy, and balsamic and red kinds of vinegar.

But many people don't realize that in addition to foods there are a number of ingredients that have a high potential to trigger migraines. These ingredients are found in a broad range of foods and beverages at the grocery store. The potential for these ingredients to cause migraines may be a known side effect, however, they are allowed into the food supply through something known as the Generally Recognized As Safe (GRAS) classification. Just because these ingredients have GRAS standing does not mean that exposure to them is harmless. Indeed for those who are highly sensitive, even a minuscule amount can trigger an attack.

Fortunately, with packaged foods, there is an ingredient panel that is required to list the ingredients. Reading the label is paramount when it comes to avoiding these ingredients.



MONOSODIUM GLUTAMATE

At the top of the harmful ingredient list we have Monosodium Glutamate, often abbreviated as MSG. MSG sensitivity used to be referred to as Chinese Restaurant Syndrome. The funny thing is that these days it's often not found in Chinese food. Unfortunately, it is found in a wide range of other foods instead.

Glutamic acid also called glutamate, is a naturally occurring amino acid that appears in a number of foods such as broccoli, cheese, and mushrooms. Glutamate is important to support the function of our brains, gut health, immune system, and our kidneys, and pancreas. When highly processed it turns from a whole food form into free glutamic acid which can be concentrated and used as an additive to increase flavor.

The impact of MSG on headaches is well known. It appears that MSG overstimulates the neurons and causes vasodilation.

Additionally as little as a single exposure to MSG can be linked to headache, an increase in muscular sensitivity (or decreased pain thresholds), and an increase in blood pressure. Repeated and continued exposure did not appear to lead to tolerance. In other words, every exposure can bring a reaction. It is reasonable to assume that reactions might potentially increase or worsen with repeated exposure.

As well as its known link to headaches and migraines, MSG is also strongly linked to a wide range of other health issues including stomach cramps, nausea, diarrhea, heart palpitations, and dizziness. For those who are highly sensitive, free glutamates can have a similar effect as MSG. Therefore knowing where they can be found is important. This means that in addition to watching out for the term monosodium glutamate there is a need to be aware of all of the different names that indicate the presence of high glutamic acid. It is up to each individual to work their way through the list and see if their sensitivity is to the chemically made MSG or if the sensitivity extends to high glutamic acid in naturally occurring substances as well.

Below is a list of different names that may indicate the presence of MSG and/or glutamates in food. Because the list is rather large the best way to tackle it is to post this list inside your pantry door. Learn two or three of these names at a time and read the label while shopping to avoid them. For the rest read the labels before you put the items into your pantry. Any that have one of these ingredients should be set aside and returned to the grocery store.

High glutamate additives:

- Monosodium Glutamate
- Hydrolyzed Vegetable Protein
- Hydrolyzed Protein
- Hydrolyzed Plant Protein
- Plant Protein Extract
- Sodium Caseinate

- Calcium Caseinate
- Yeast Extract
- Textured Protein
- Autolyzed Yeast
- Hydrolyzed Oat Flour

Moderate glutamate additives:

- Malt extract
- Malt Flavoring
- Bouillon
- Broth
- Stock
- Flavoring
- Natural Flavoring
- Natural Beef or Chicken
- Flavoring
- Seasoning

Potential glutamate additives:

- Carrageenan
- Enzymes
- Soy Protein Concentrate
- Soy Protein Isolate
- Whey Protein Concentrate

The new MSG-type ingredients:

- Flavor enhancers 627, 631, 635
- Disodium guanylate 627
- Disodium inosinate 631
- Disodium 5'ribonucleotides 635, also called ribonucleotides or nucleotides

Nucleotides are possibly added to unbaked products such as chicken nuggets in 'bakers yeast'

As mentioned above, there is a wide range of food products that contain the ingredients listed above. These are required to be disclosed on the ingredient panel, making it prudent to develop a habit of reading the label. However, you also need to be aware of the fact that it is possible for the front of a package to say "Contains no added MSG." This does not necessarily mean that there is no MSG in the product, it just means that they did not add any extra.

MSG tends to be found mostly in highly processed foods. You'll still need to read the ingredients panel in order to verify if it is present in the package. Obviously, the less processed foods you purchase the less likely you are to have to deal with the challenges of MSG (and, indeed, many of the ingredients listed in this book). A whole food diet is one of the best ways to support overall health and wellness. While the transition can be a bit of a challenge, as you learn to make changes, one at a time, feeling better becomes its own reward and the motivation to continue to improve the diet. Cleaning up chemical contamination of the diet is beneficial, not only for those who struggle with migraines but indeed for everyone.

Broths/Bouillon

- Beef
- Chicken
- Vegetable

Convenience Foods

- Boxed pasta mixes (Hamburger helper, etc)
- Frozen meals
- Instant soups (Ramen, etc)
- Salad dressings
- Seasoning packets

Flavored Snacks

- Chips
- Nuts
- Potato Chips

Soups

- Broth-based soups (chicken noodle, vegetable soups)
- Cream of (celery, potato, mushroom, etc) soups



ARTIFICIAL INGREDIENTS

One broad category of additives which strongly affects those who suffer from migraines is the artificial ingredients that are commonly found in the food supply. Artificial colors and sweeteners are present in nearly every single category at the grocery store. Food producers use these ingredients because it makes it easier for them to deliver a consistent product.

Artificial Colors



By using artificial colors food manufacturers can ensure consistent color to their product every time. Regardless of the fact that these colors do not exist in nature, it is also a way to trick our brains into responding to the allure of their product. We are biologically geared to see colorful foods as being healthier for us. When food producers use natural coloring agents such as turmeric, carrots, beets, or spinach, the colors are not as deep and there may be a variance in color within the package.

Red food coloring, FD&C Red #40 (sometimes appearing simply as Red #40 on a label), tartrazine, Yellow #5, and sunset yellow, Yellow #6, have all been linked to migraines and should be avoided.

Artificial food colors are particularly challenging to those who struggle with Attention Deficit Disorder (ADD). Studies have found consumption of food dyes can have a significant impact on attention-related disorders. Artificial colors have also been linked to allergic reactions and various forms of cancer. In the European Union (EU) a warning label is required on any foods using artificial colors. This has effectively prodded food producers to use natural food coloring agents instead. In the United States, the Food and Drug Administration (FDA) has refused to rule on this topic however in response to strong consumer demand many food manufacturers are shifting away from using artificial colors. Although still highly prevalent in the food supply food colors are at least easy to identify on the ingredient panel. They are listed as the color and a number. For foods imported from other countries where they use E numbers, there is a requirement for a US standard food label to also be present. This would list the colors in the US common format. For those overseas, it's necessary to learn the E numbers that indicate artificial colors and should be avoided.

E numbers for artificial colors:

- E102 Tartrazine
- E104 Quinoline Yellow
- E110 Sunset Yellow
- E122 Azorubine, Carmoisine
- E124 Ponceau, Brilliant Scarlet
- E127 Erythrosine
- E129 Allura Red
- E132 Indigotine
- E133 Brilliant Blue
- E142 Green S
- E143 Fast Green FCF
- E151 Brilliant Black
- E155 Brown HT

Artificial Sweeteners



Artificial sweeteners are a common ingredient in the food supply, put there to meet a demand for sweetness without the calories. This demand, however, comes at a price. In spite of the belief that eating foods sweetened with artificial sweeteners will help us lose weight, studies now show that they can actually trigger us to eat more.

In addition, there is a wide range of health issues such as chronic inflammation, diabetes, heart disease, and cancer all tied to the consumption of artificial sweeteners. Migraines and headaches are also listed among the known side effects of using artificial sweeteners.

Aspartame in particular, according to one study was, "broken, converted, and oxidized into formaldehyde in various tissues." Another study revealed that just a single-blind exposure was enough to trigger a migraine.

Given the overall health challenges, it is reasonable to suggest that artificial sweeteners should be avoided by everyone. The list below includes artificial sweeteners based on stevia since those are not true stevia but an artificial creation based on stevia extract.

Names for artificial sweeteners:

- Acesulfame Potassium also listed as Sunnett and Sweet One
- Aspartame also listed as Nutrasweet or Equal
- Neotame this is another type of aspartame
- Saccharin also listed as Sweet 'N Low, Sweet Twin, or Sugar Twin
- Sucralose also listed as Splenda
- Stevia/Rebaudioside chemical versions are A Sweet Leaf, Sun Crystals,
- Steviva, Truvia, and PureVia



SULFITES

Sulfites can appear naturally in foods. In this instance, however, we are talking about added sulfite ingredients. No longer used on fresh foods (such as salads at a salad bar) processed sulfites are now only added to packaged or prepared foods. As an additive, sulfites are used as a preservative and an antioxidant.

While the incidence of sensitivity to sulfites appears to be low (approximately 1 percent in the general population and 5 percent for those with asthma), for those with migraines it can be a significant trigger. Combine the naturally occurring sulfites with the additives and it's easy to reach a threshold where you've consumed too much and it becomes a trigger for headaches and migraines.

Knowing all of the names of sulfiting agents can be helpful in identifying them on the food label. Unfortunately, however, the presence of sulfites may not always be labeled. In the United States (US) it is only required on the label if it is used as a preservative. If, however, sulfites are used during the food manufacturing process (but not used as a preservative) its presence does not need to be disclosed unless there are more than 10 parts per million per serving of the product. This then requires extra vigilance and understanding of where sulfites can hide in the diet in order to avoid them if they are a trigger for you.

Names for sulfites found on the label:

- Potassium bisulphite
- Potassium metabisulfite
- Sodium bisulphite
- Sodium dithionite
- Sodium metabisulfite
- Sodium sulfite
- Sulfites
- Sulphur dioxide
- Sulfuric acid

There is a wide variety of processed foods preserved with sulfites. Be sure to read the label on these products in order to avoid sulfites. In the case of alcohol consider carefully if sulfite is a trigger for you before consuming it. US labeling laws do not require labels on alcohol or wine. Yet these items are likely to have high levels of naturally occurring sulfites in them. For loose packaged items such as dried fruit in a self-serve bin, be aware that there may be sulfites present there as well.

Food and beverages likely to contain sulfites:

- Alcohol: beer, cider, and wine (alcoholic or non-alcoholic)
- Canned or Frozen Fruits
- Canned or Frozen Vegetables
- Cereal bars
- Cereals
- Condiments (ketchup, mustard, pickles, relish, salad dressings, etc)
- Corn syrup

- Crackers
- Dried fruits and vegetables
- Fish, crustaceans, and mollusks
- Frozen Fruits and Vegetables
- Fruit and Vegetable Juices
- Fruit jelly, jam, syrup, or other preserved fruit
- Gelatin or pectin
- Lemon or lime juices (bottled and concentrated)
- Molasses
- Pastry and baked goods
- Prepared potatoes: dehydrated, mashed, peeled or pre-cut (including french fries)
- Sausages, hot dogs, and deli meat
- Soy products
- Tomato products (puree, sauce, etc)
- Vinegars (especially wine vinegar)
- Wine, beer and cider (both alcoholic and non-alcoholic)

As with artificial colors, the variety of sulfiting agents used in food are a little more challenging to identify on labels from countries that use E numbers.

E numbers for food additive sulfites:

- E150b Caustic sulfite caramel
- E150d Sulfite ammonia caramel
- E220 Sulfur dioxide
- E221 Sodium sulfite
- E222 Sodium bisulfite (sodium hydrogen sulfite)
- E223- Sodium metabisulfite
- E224 Potassium metabisulfite
- E225 Potassium sulfite
- E226 Calcium sulfite
- E227 Calcium hydrogen sulfite (preservative)
- E228 Potassium hydrogen sulfite



NITRATES

Used as a preservative and added mostly to cured meats, nitrates and nitrites can also be found in other processed foods like wine and chocolate. They also appear naturally in some foods such as arugula, beets, celery, and spinach.

When used as a preservative in meats nitrate gives the meat a pinkish-red appearance. One of the challenges with it in meat however is that when cooked at high temperatures it can change into nitrosamines which are known to cause cancer. A number of studies have linked higher consumption of cured meats to cancer including one study from 2010 that specifically found a link between nitrites and stomach cancer.

It appears that those who suffer from migraines may have an increased susceptibility to nitrates.

According to a study done at the University of California, San Diego School of Medicine migraine sufferers have more nitrate modifying bacteria in their mouths than those who do not suffer from migraines. Their oral microbiome appears to be different enough to make those people predisposed to migraines more sensitive to the presence of nitrates in their food.

As reported in the study, "We detected observable and significantly higher abundances of nitrate, nitrite, and nitric oxide reductase genes in migraineurs versus non-migraineurs in samples collected from the oral cavity and a slight but significant difference in fecal samples." The study concluded, "These results show for the first time a potential link between bacterial nitrate, nitrite, and nitric oxide reducers and migraines."

Avoid the following foods to reduce the amount of nitrates in your diet:

- Bacon
- Canned beans (with bacon)
- Deli meats (especially ham and salami)
- Hot dogs
- Cured or canned seafood
- Sausages

Read the food label and avoid the terms sodium nitrates, sodium nitrite, potassium nitrate, or potassium nitrite. If you are highly sensitive to nitrates be aware that a number of natural and organic lunch meats use celery juice as a preservative. Celery is one of the foods that have high, naturally occurring levels of nitrates in it. This may be too much for your system.

E-numbers for nitrates:

- 249 Potassium nitrite
- 250 Sodium nitrite
- 251 Sodium nitrate
- 252 Potassium nitrate

To help further reduce your exposure to nitrates choose to eat organic foods. Synthetic nitrates and nitrites are not allowed as preservatives in organic packaged foods and meats. It's also helpful to increase your consumption of antioxidant-rich foods. These can reduce the formation of nitrosamines from nitrates and nitrites.

Antioxidant-rich foods:

- Artichokes
- Blueberries (wild)
- Broccoli
- Carrots
- Grapes (or grape juice or
- red wine)
- Kale
- Pumpkin seeds
- Pomegranates
- Salmon (wild-caught)
- Strawberries
- Sweet potatoes
- Tomatoes



CAFFEINE

Caffeine can be both a trigger and support for those with migraines. Because it acts as a vasodilator, many over-the-counter migraine relief formulas contain caffeine. For many people though, excessive caffeine consumption can cause a headache or migraine. This is compounded by the fact that the United States Food and Drug Administration (USDA) does not require manufacturers to list the amount of caffeine on the food label.

According to the American Migraine Foundation, those who struggle with migraines seem to have higher migraine frequency and caffeine dependency simply by consuming caffeine for as little as three days per week. Yet in one Israeli study researchers found that adolescents who complained of chronic daily headaches when removing caffeine gradually (to avoid withdrawal symptoms) were able to successfully stop headaches. The few study participants who continued to have headaches shifted from daily experiences to intermittent migraines without aura. Another study found that completely avoiding all forms of caffeine was more effective for migraine support. The challenge is that caffeine can be pervasive and addictive. Unfortunately these days it appears everywhere. Not only traditionally in candy bars, gum, personal care products, but even soaps are also infused with caffeine. Manufacturers have even added it to oatmeal, beef jerky, and sunflower seeds. Throw in hyper-caffeinated beverages such as Rock Star or Monster drinks and this makes it possible to consume caffeine at previously unconsidered levels.

For caffeine in foods, all sources need to be considered. Not simply coffee and tea, but also colas, chocolate, ice cream. Even decaf coffee and tea can contain a minuscule amount of caffeine. For those who are highly sensitive, this can be an issue.

Sources of caffeine:

- Analgesics
 - Anacin (contains aspirin and caffeine)
 - BC Powder (contains aspirin and caffeine)
 - Excedrin Extra Strength, Excedrin Migraine, and Excedrin Tension Headache (contains aspirin, acetaminophen, and caffeine)
 - Fioricet (contains acetaminophen, butalbital, and caffeine only available by prescription)
 - Midol (contains acetaminophen, caffeine, and pyrilamine maleate)
 - Norgesic (contains aspirin, caffeine, and orphenadrine)
- Chocolate and hot chocolate
- Coffee
- Energy water (such as Propel or VitaminWater)
- Energy aids (such as 5 Hour Energy, No-Doze, or Vivarin)
- Ice cream (if it contains coffee or chocolate)
- Soda/colas (including Mountain Dew and cream sodas)
- Tea
- Weight loss supplements (the top five: Dexatrim, Estrin D, Hydroxycut,

Twin Lab Diet Fuel, and Xenadrine)

It's important to remember that when giving up caffeine it needs to be done gradually in order to avoid withdrawal symptoms which can, in and of themselves, lead to headaches and migraines.



CONCLUSION

For those looking for an answer to avoiding the pain and debilitation that frequently accompanies migraines, it is important to note that understanding top level triggers may not be enough. Certain foods and chemical exposures may be easily identified. However, a more foundational level of the diet, the ingredients in the food, can present more of a challenge.

Food journaling can help identify which foods are a potential trigger. Food journaling can also be more deeply evaluated by the simple expedient of also writing down potentially triggering ingredients. Just be aware that for many people with trigger items there's no such thing as just a little bit. This means that when you get to a point where it seems like you are feeling better, and you are tempted to add those items back in, there may be a strong reaction. Unfortunately with food sensitivities for migraines, as we've read above, sometimes just one exposure can cause a response.

With the sneaky ingredients listed above, it's best to simply read the food label and avoid them altogether.

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