

## THE ROLE OF TRIGGERING FACTORS IN MIGRAINE HEADACHES

As discussed by your medical provider, migraines are ultimately caused by an inborn or inherited biochemical disorder that affects the central nervous system. Ninety percent of our patients at **The Headache Institute** of Texas Neurology have a family history of headaches. A patient without this inherited disorder can be exposed to a variety of triggering factors including foods, weather alterations, emotional stressors, and toxins without ever getting a migraine. A person with this disorder, on the other hand, may be susceptible to a range of *migraine triggers* including physical or emotional factors that seem to set in motion the biochemical malfunction leading to a migraine headache event. Thus, even though a triggering factor does not cause the headache, they may indeed provoke it. Keeping a headache calendar and monitoring the frequency and severity of the headaches and associated events will help you learn which triggers are likely to affect you and under what circumstances they may provoke a headache. This may be one of the best ways to begin your headache treatment program.

Remember that reducing triggering factors to improve your headache threshold and decrease your triggerability may not make an impact in your overall frequency and severity of headaches until you have been on a trigger reduction program for at least 4-8 weeks. Often, these programs never adequately control migraine symptoms and breakthrough headaches. In certain cases, the addition of migraine preventive medication will be necessary. Even if a patient is on a migraine preventive medication, they should continue to follow a triggering factor reduction program. Without these types of programs in combination with your preventive medications, your medications may not work effectively. One needs to keep in mind that the symptoms of a migraine event may not occur for as long as 24-hours after being exposed to a triggering factor. Patients with migraines are abnormally sensitive to certain factors. Frequently, these dietary items which can provoke a migraine are thought of as an "allergy". A true food allergy with positive skin testing in this setting is uncommon. The chemicals that are contained in foods that are generally responsible for triggering headache events are chiefly tyramines, phenylethylamines, histamines, tannins, nitrates, etc. These compounds are found in a variety of foods at varying levels (see Glossary).

As recommended by the American Headache Society and **The Headache Institute** at Texas Neurology, you should get moderate amounts of routine exercise, eat regular meals, get regular sleep, drink plenty of water, limit caffeine, alcohol, and other drugs and medications, reduce stress, and identify particular triggering factors. This comprehensive approach to headache management should improve your well being.

X **CAFFEINE:**

Coffee, tea, iced tea, colas, etc., can be provocative. Even decaf coffee and tea may contain a small amount of caffeine as well as other chemical triggers such as tannins.

X **CHOCOLATE:**

Phenylethylamines, theobromines, and tannins are some of the chemical triggers in chocolate. Cocoa and carob can provoke a migraine event in as little as 2 hours after ingestion.

X **MONOSODIUM GLUTAMATE (MSG):**

Restaurants frequently use MSG in pre-packaged foods, soups, seasoned salts, salad dressings, salts or spices, croutons, bread crumbs, gravies, meat substitutes, etc. "Ready to eat meals" frequently contain MSG or other food additives, and low fat or low calorie items, chips, and snack foods also can be provocative. Beware of hidden MSG in various foods.

X **PROCESSED, AGED, OR SMOKED MEATS, CHICKEN, OR FISH:**

Foods aged, canned, cured, fermented, marinated, smoked, tenderized, or preserved, specifically with nitrates or nitrites, can be provocative. These include hot dogs, sausage, salami, pepperoni, bologna, liverwurst, beef jerky, certain hams, bacon, pate, smoked and pickled fish, caviar, anchovies, etc. Also, beef livers, chicken livers, and wild game can contain tyramine and tannins.

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X **CHEESE AND OTHER DAIRY PRODUCTS:**

Aged, ripened, and certain processed cheeses, including cheddar, swiss, mozzarella, parmesan, Romano, brick, brie, Camembert, Guda, gruyere, Stilton, provolone, Roquefort, blue cheese, macaroni and cheese from a mix, yogurt, sour cream, buttermilk, and soy milk. The more aged the item, the more likely it is a triggering factor.

X **NUTS AND SEEDS:**

All nuts and seeds can be provocative and be a triggering factor for headache events. This includes peanuts, peanut butter, cashews, walnuts, pecans, pistachios, pumpkin seeds, sesame seeds, peanut oil, and sesame oil.

X **ALCOHOL, VINEGAR, SPICES, AND ADDITIVES:**

Histamines, sulfates, and sulfites in wine and beer, especially red wine, champagne, chianti, sherry and dark or heavy liqueurs, pickled and fermented foods, meats, fish, or vegetables, sauerkraut, olives, and pickles. Watch for condiments in excess including ketchup, mustard, and mayonnaise made with vinegar. Salad dressings can be a problem. Meat tenderizers, seasoned salts, and packaged spices as well.

X **FRUITS AND JUICES:**

Citrus fruits including oranges, grapefruits, lemons, limes, tangerines, Clementines, pineapples, and their juices can be provocative. Bananas, figs, dates, raisins, most dried fruits preserved with sulfites/sulfates, raspberries, red plums, papayas, passion fruits, and avocados as well.

X **VEGETABLES:**

Onions, cucumbers, pea pods, certain beans including lima, fava, navy, lintels, and broad Italian beans.

X **SOUPS:**

Canned soups frequently contain MSG, hydrolyzed yeast products, meat extracts. Beware of foods made from soup bases and packaged dry soups in casseroles and dips.

X **CERTAIN BREAD PRODUCTS:**

Homemade yeast bread, sourdough, rye, bagels, donuts, pizzas, soft pretzels, and coffee cake.

X **SOY PRODUCTS, WHEY PROTEIN, AND GLUTENS:**

Soy milk, soy drinks, tofu, protein bars, meal replacement bars and drinks, multodextrose in "natural foods", Miso soy sauce, teriyaki sauce, etc.

X **ARTIFICIAL SWEETENERS, FLAVORS AND ADDITIVES:**

Aspartame (NutraSweet) saccharine (Sweet'N Low), sucralose (Splenda), nitrates, nitrites, sulfates, and sulfites.

X **DEHYDRATION:**

Dehydration may cause headache. Drink appropriate amounts of water throughout the day as you are able. Avoid coffee, tea, sodas, sweetened or artificially sweetened drinks, alcohol, and flavored waters.

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- X **MEDICATIONS, VITAMINS AND MINERALS:**  
Medications containing caffeine are frequent triggering factors. Decongestants can be provocative. All medications, vitamins, and minerals could trigger a headache in a susceptible patient. Over-the-counter or prescription medications have the capacity to alter your headache threshold and increase your triggerability
- X **MEALS:**  
Irregular, wildly variant, and missed meals can trigger headache. Frequent meals outside the home leave one open to a variety of unknown ingredients that can trigger a headache. Low blood sugar, high blood sugar, and too much sugar can also be provocative.
- X **SLEEP DEPRIVATION:**  
Irregular sleep patterns, especially on weekends or vacation, can trigger a headache. This is called a "letdown" headache. Sleep apnea, restless leg syndrome, or certain medications may lead to insomnia, which can also trigger an event.
- X **CHEMICALS/TOXINS:**  
Certain chemicals in common household items can be provocative. Odors and scents, etc., can be triggers. Avoid candles, potpourri, and scented lotions/soap.
- X **WEATHER:**  
Rapid changes in weather with barometric pressure adjustments can be provocative.
- X **SEASONS:**  
Different temperatures as well as seasonal blooming of trees, plants, and flowers can trigger an event. Daylight Savings Time adjustments can also be an issue.
- X **SMOKING AND TOBACCO:**  
Tobacco contains a number of triggering chemicals not the least of which is nicotine. Beware of nicotine patches and gums. Second hand smoke can also be a triggering factor. Smokeless tobaccos can be just as guilty.
- X **POOR PHYSICAL CONDITION AND DECONDITIONING:**  
The brain has an innate ability to fight pain. The endorphins and enkephalins are among the main brain chemicals involved in this system. Lack of exercise, poor nutrition, poor sleep habits, undue stress or the inability to manage stress, as well as certain medications can decrease this innate natural ability to fight pain. Routine physical activity and regular exercise is imperative for the headache patient.
- X **HORMONES AND HORMONE REPLACEMENT THERAPY:**  
Birth control pills and hormone replacement therapy can trigger headaches. Ovulation, menses, pregnancy, and menopause can alter one's headache threshold leading to a change in their headache triggerability as well. Low testosterone in males or females can also be provocative.
- X **EMOTIONAL TRIGGERS:**  
Stress, excitement, a letdown period such as weekends or vacation, times of intense activity, loss through separation, divorce, death, moving, and/or job changes can be provocative

Food Type	Foods Allowed	Foods to Avoid
<b>Beverages</b>	Decaffeinated coffee, fruit juices, club soda, non-cola sodas (7UP, ginger ale)  * Caffeine sources to be limited to 2 cups per day	*caffeine sources  Coffee, tea, cola type sodas, in excess of 2 cups per day  No chocolate or cocoa  <b>Alcoholic beverages NONE!</b>
<b>Meat, Fish, Poultry</b>	Fresh or frozen turkey, chicken, fish, lamb, veal, pork, egg as meat substitute, tuna, tuna salad	Aged, canned, cured or processed meats, canned or aged ham, pickled herring, salted dried fish, chicken liver, aged game, hot dogs, fermented sausage (no nitrates or nitrites) bologna, salami, pepperoni, summer sausage, peanut butter, any meal prepared with meat tenderizer, soy sauce or yeast extracts
<b>Dairy</b>	Milk: Homogenized, 2% or skim  Cheese – American, cottage, framer, ricotta, cream cheese, Velveeta  Yogurt: limit to 1/2 cup	Cultured dairy such as buttermilk, sour cream, chocolate milk  Cheese – blue, boursoult, brick, brie types, camembert types, cheddar, swiss, gouda, roquefort, stilton, mozzarella, parmesan, provolone, romano, emmenthaler.
<b>Breads And Cereals</b>	Commercial breads: white, whole wheat, rye, French, Italian, English muffins, melba toast, crackers, rye crisp, bagel  All hot and dry cereals: cream of wheat, wheaten, oatmeal, cornflakes, puffed rice and wheat, etc.	Hot, fresh homemade yeast breads, breads and crackers with cheese
<b>Potato or Substitute</b>	White potato, sweet potato, rice, macaroni, spaghetti, noodles	
<b>Vegetables</b>	Asparagus, string beans, beets, carrots, spinach, pumpkin, tomatoes, squash, corn, zucchini, broccoli, green lettuce, etc. all except those to avoid	Pole or broad beans, lima beans, Italian beans, lentils, snow peas, fava beans, navy beans, pinto beans, pea pods, sauerkraut, garbanzo beans, onions, except for flavoring, olives, pickles
<b>Fruits</b>	Any fruit juice such as prune, apple, applesauce,	Avocados, banana (1/2 allowed per day), figs, raisins, papaya, passion fruit, red

	cherries, apricots, peach, pears, fruit cocktail  Limit intake to ½ cup orange, grapefruit, tangerine, pineapple, lemon lime	plums  Nuts and seeds: peanut butter, sunflower, sesame and pumpkin seed, peanuts
<b>Soups</b>	Cream soups made from foods allowed, homemade broths	Canned soups: soup cubes, bouillon cubes, soup bases with autoyed yeast or MSG (read labels)
<b>Desserts</b>	Fruit listed, sherbets, ice cream, cakes, and cookies made without chocolate or yeast, jello	Chocolate type: ice cream pudding, cookie and cake
<b>Sweet</b>	Sugar, jelly, jam, honey, hard candy	Chocolate candies, chocolate syrup
<b>Miscellaneous</b>	Salt in moderation, lemon juices, butter or margarine, cooking oil, whipped cream  White vinegar and commercial salad dressing in small amounts	Pizza, cheese sauces, soy sauce, monosodium glutamate (MSG) in excessive amounts, yeast, yeast extracts, brewer's yeast, meat tenderizers, accent and seasonal salt  Mixed dishes: Macaroni and cheese, beef stroganoff, cheese blintzes, lasagna, frozen TV dinners  Some snack items to be avoided Read all labels  Any pickled, preserved or marinated foods

***\*CAFFEINE HAS NO TYRAMINE PER SE, BUT AGGRAVATES THE SYMPTOMS OF HEADACHES AND HYPERTENSION***