

DIET PLAN FOR MIGRAINE PATIENTS***Prof. Satyanand Tyagi¹, Anil Kumar Gupta², Divya Bharti³, Garima Bharti⁴, Shashi Ranaut⁵, Rajender Kumar⁶, Dr. Shalima Tyagi⁷, Shifali Thakur⁸**¹President & Founder, Tyagi Pharmacy Association (TPA) & Scientific Writer (Pharmacy), Chattarpur, New Delhi, India-110074²Research Scholar, Bhagwant University, Institute of Pharmacy & Research Center, Ajmer, Rajasthan, India-305004³Department of Anatomy, Bhojia Dental College and Hospital, Nalagarh Road, Budh (Baddi), Himachal Pradesh, India-173205⁴Department of Physiology, Bhojia Dental College and Hospital, Nalagarh Road, Budh (Baddi), Himachal Pradesh, India-173205⁵M.Pharm Research Scholar, Department of Pharmaceutics, Manav Bharti University, Solan, Himachal Pradesh, India-173229⁶M.Pharm Research Scholar, Department of Pharmaceutical Chemistry, Manav Bharti University, Solan, Himachal Pradesh, India-173229⁷Research Scholar, Lord Mahavira Homeopathic Medical College, Kitchlu Nagar, Hehnenan Road, Ludhiana, India-141001⁸Department of Zoology, Guru Nanak Dev University, Amritsar, India-143001

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**ABSTRACT**

Migraines without aura are characterized by sudden onset and can have a major impact on the sufferer's daily life³. On average, untreated migraine episodes last from 4 to 72 hours⁴.

A migraine with aura involves any number of different sensations that range from visual disturbances to physical sensations⁵. The aura symptoms usually occur in alternating body sites during different attacks. Almost always preceding the headache, the aura symptoms can last between 5 and 60 minutes⁵. Some people report having a prodrome, a feeling of strangeness a day or two before the attack begins. Prodromes are characterized by mood changes, food cravings, feeling tired or hyperactive, or excessive yawning⁶. Some people may also experience fatigue, stiffness in the neck and/or difficulty concentrating⁴.

KEY WORDS: Nausea, Photophobia, Phonophobia**INTRODUCTION:**

A migraine is a relatively common medical condition that can severely affect the quality of life of the sufferer and his or her family and friends¹. Almost half of the Indians have been diagnosed with migraine. Migraine is most commonly experienced by both men and women between the ages of 25 and 39². Migraines without aura are characterized by sudden onset and can have a major impact on the sufferer's daily life³. On average, untreated migraine episodes last from 4 to 72 hours⁴. A migraine with aura involves any number of different sensations that

range from visual disturbances to physical sensations⁵. The aura symptoms usually occur in alternating body sites during different attacks. Almost always preceding the headache, the aura symptoms can last between 5 and 60 minutes⁵. Some people report having a prodrome, a feeling of strangeness a day or two before the attack begins. Prodrome are characterized by mood changes, food cravings, feeling tired or hyperactive, or excessive yawning⁶. Some people may also experience fatigue, stiffness in the neck and/or difficulty concentrating⁴.

The pain is worsened by movement and accompanied by at least one of the following symptoms⁵

- Nausea, loss of appetite and/or vomiting
- Photophobia (increased sensitivity to light)
- Phonophobia (increased sensitivity to sound)

It is difficult to follow a diet based on a list of foods to avoid and the last thing you need is a difficult stressful task added to your life. Here is a “Yes” list of foods you can eat. It was created by a patient who is also a nutritionist to save others the stress of following the “No” list. The “Yes” list will make it easier to shop and plan your diet. Patients with daily migraine symptoms have so much abnormal brain

activity that avoidance of a Few key trigger foods like coffee, red wine, and chocolate is not enough to bring relief. They may continue to suffer despite medications to elevate the migraine triggering threshold. Most of these patients can find relief if they protect their sensitive brains from all potential migraine triggers. This relief does not come instantly. It may take months for daily symptoms to decrease and to allow some good days. With time the good days will increase in number. Be patient. Types of migraine and etiology are discussed below.

Etiology of Headaches

Common

- Migraines
- Cluster headaches
- Tension headache
- Herpes zoster (may precede vesicles)
- Sinus headache

Rare less serious

- Dental disease ie TMJ syndrome
- Trigeminal neuralgia
- Depression
- Refractive

Rare, but serious

- Brain edema
- Brain tumor
- Meningitis
- Aneurysms
- Acute angle closure (usually eye pain)
- Malignant hypertension
- Subarachnoid hemorrhage
- Epidural or subdural hematoma
- Giant cell arteritis

Table 1: Showing Etiology of Headaches

TYPES OF MIGRAINES:

FOR MIGRAINE WITHOUT AURA:

- A. At least five attacks fulfilling criteria B-D
- B. Headache attacks lasting 4-72 hours [*when untreated in adults*]
- C. Headache has at least two of the following characteristics:
 1. Unilateral location
 2. Pulsating quality
 3. Moderate or severe pain intensity
 4. Aggravation by or causing avoidance of routine physical activity
- D. During the headache, at least one of the following [is present]:
 1. Nausea and/or vomiting
 2. Photophobia and phonophobia
- E. Not attributable to another disorder (International Headache Society)⁷

MENSTRUAL MIGRAINE:

It is well documented that migraine occurs nearly 3 times as often in women than in men^{8, 7}, and is one of the top 5 most common disabling conditions in women^{9, 10}. In over half these women, their headaches are strictly related to their menstrual cycle⁷. Menstrual migraines may also be linked to oestrogen withdrawal.

FOR PURE MENSTRUAL MIGRAINE WITHOUT AURA:

- A. Attacks, in a menstruating woman, fulfilling the criteria for migraine without Aura
- B. Attacks that occur exclusively from days -2 to +3 of menstruation in at least 2 Out of 3 menstrual cycles and at no other times of the cycle.

Note: The first day of menstruation is day +1, and the preceding day is day -1; there is no day 0. (International Headache Society)⁷.

FOR MENSTRUAL-RELATED MIGRAINE WITHOUT AURA:

- A. Attacks, in a menstruating woman, fulfilling the criteria for migraine without aura
- B. Attacks that occur exclusively from days -2 to +3 of menstruation in at least 2 out of 3 menstrual cycles, and additionally at other times of the menstrual cycle.

Note: The first day of menstruation is day +1, and the preceding day is day -1; there is no day 0. (International Headache Society)⁷.

MIGRAINE WITH AURA:

The second-most common form of migraine headache: the patient primarily suffers migraine with aura, and might also suffer migraine without aura. recurrent disorder manifesting in attacks of reversible focal neurological symptoms that usually develop gradually over 5–20 minutes and last for less than 60 minutes. Headache with the features of "migraine without aura" usually follows the aura symptoms. Less commonly, headache lacks migraines feature or is completely absent [i.e., the aura may occur without any subsequent headache].

- A. At least two attacks fulfilling criterion B
- B. Migraine aura fulfilling criteria [described below]
- C. Not attributed to another disorder.

CRITERIA FOR "TYPICAL AURA":

Aura consisting of at least one of the following, but no motor weakness:

1. Fully reversible visual symptoms including positive features (e.g. flickering lights, spots or lines) and/or negative features (i.e., loss of vision)
2. Fully reversible sensory symptoms including positive features (i.e., pins and needles) and/or negative features (i.e., numbness)
3. Fully reversible dysphasic speech disturbance [Aura also has] at least two of the following:
 1. Homonymous visual symptoms [i.e., affecting just one side of the field of vision and/or unilateral sensory symptoms [i.e., affecting just one side of the body]
 2. At least one aura symptom develops gradually over [at least] 5 minutes and/or different aura symptoms occur [one after the other] over [at least] 5 minutes
 3. Each symptom lasts [from] 5 [to] 60 minutes

OTHER POTENTIAL AURA CRITERIA:

Fully reversible motor weakness, each aura symptom lasts [from] 5 minutes [to] 24 hours [In the case of a "Basilar type" migraine], Dysarthria [difficulty speaking], vertigo [dizziness], tinnitus [ringing in the ears], [and other symptoms]. (International Classification of Headache Disorders)⁷

BASILAR TYPE MIGRAINE:

Basilar type migraine (BTM) (previously basilar artery migraine [BAM] and basilar migraine [BM]) is an uncommon, complicated migraine with symptoms caused by brainstem dysfunction. Serious episodes of BTM can

lead to stroke, coma, and death. Using triptans and other vasoconstrictors as abortive treatments for BTM is contraindicated. Abortive treatments for BTM address vasodilatation and restoration of normal blood flow to the vertebrobasilar territory to restore normal brainstem function.

FAMILIAL AND SPORADIC HEMIPLEGIC MIGRAINE:

Familial hemiplegic migraine (FHM) is migraine with a possible polygenetic cause—in fact, FHM can only be diagnosed when at least one close relative has it too.⁷The patient experiences typical migraine with aura headache either preceded or accompanied with one-sided, reversible limb weakness and/or sensory difficulties and/or speech difficulties. FHM is associated with ion channel mutations. There also exists the "sporadic hemiplegic migraine" (SHM), which is the same as FHM but with no close family members showing the symptoms. Affecting a differential diagnosis between basilar migraine and hemiplegic migraine is difficult. Often, the decisive symptom is either motor weakness or unilateral paralysis, which occurs in FHM and SHM. Basilar migraine can present tingling and numbness, but true motor weakness and paralysis occur only in hemiplegic migraine

ABDOMINAL MIGRAINE:

Most children with abdominal migraines will develop migraine headache in adult life; the two propensities might co-exist during the child's adolescence. Abdominal migraine is a recurrent disorder of unknown origin, principally affecting children. Sometimes early on, it can be misdiagnosed in an ER setting as appendicitis. Episodes feature nausea, vomiting, and moderate-to-severe central, abdominal pain. The child is well between episodes.

DIAGNOSTIC CRITERIA:

- A. At least 5 attack fulfilling criteria B-D.
- B. Attacks of abdominal pain lasting 1-72 hours (untreated or unsuccessfully treated)
- C. Abdominal pain has all of the following characteristics:
 1. Midline location, per umbilical or poorly localized
 2. Dull or "just sore" quality
 3. Moderate or severe intensity
- D. During abdominal pain at least 2 of the following:
 1. Anorexia
 2. Nausea
 3. Vomiting
 4. Pallor
- E. Not attributed to another disorder (International Classification of Headache Disorders)⁷

RETINAL MIGRAINE:

Retinal migraines are a subclass of optical migraines. Sufferers will experience a scotoma—a patch of vision loss in one eye surrounded by normal vision—for less than one hour before vision returns to normal. Retinal migraines may be accompanied by a throbbing unilateral headache, nausea, or photophobia.

CAUSES OF MIGRAINE:

There are many theories that discuss the causes of migraine.

The cortical spreading depression (CSD) theory suggests that migraine is a disease of the brain such as angina is a disease of the heart¹¹. Disruption of normal brain functioning is believed to be the underlying cause of the migraine pain and aura¹¹. Another theory is the vascular theory which suggests that migraines result from the widening of blood vessels surrounding the brain. The chemical serotonin is also thought to play an important role in migraine development¹². While the precise cause of

migraines remains unknown, a number of potential migraine triggers (habits or conditions associated with the onset of a migraine) have been identified^{13,14}.

Each migraine sufferer has his or her individual triggers. Many migraines in women are triggered by hormonal changes such as those experienced during menstruation and pregnancy. Up to 50% of women can suffer from a migraine related to menstruation¹⁵. Migraines tend to intensify during puberty and disappear during menopause¹⁶.

Migraines can be triggered by:^{13,14} (Table 2) (Table 3)

- Diet (foods such as cheese, coffee, tea, alcoholic beverages or nuts)
- Strong odours such as perfumes
- Bright lights
- Loud noises
- Changes in the weather
- Stress
- Sleeping more or less than usual
- Certain medications

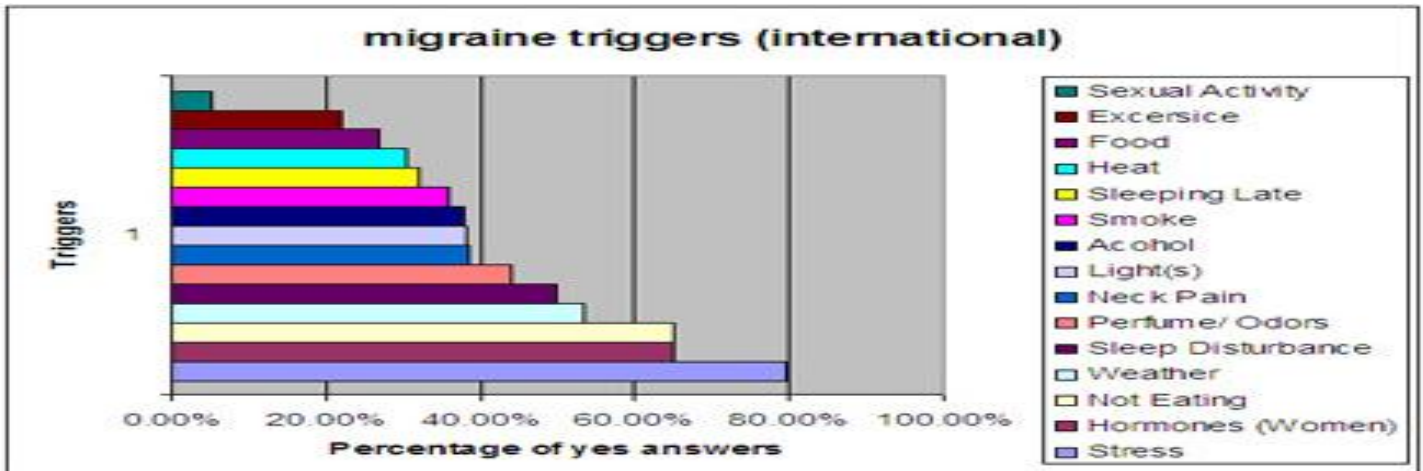


Table 2: Showing Cause Of Migraine Internationally

common potential migraine triggers

Lifestyle	Food	Physical	Environmental
Emotional stress	Chocolate	Menstrual cycle or other hormonal changes	Weather or seasonal changes
Depression	Nuts, peanut butter		Travel through different time zones
Too little sleep	Cheese, yogurt, sour cream		Odors or pollution
Exercise or overactvity	Red wine or other alcoholic drinks		Bright light
Skipping meals/fasting	Processed meats		
	Monosodium glutamate (MSG)		

Table 3: Showing Common Migraine Triggers

SYMPTOMS OF MIGRAINE:

Symptoms of migraine can occur a while before the headache, immediately before the headache, during the headache, and after the headache. Although not all migraines are the same, typical symptoms include:

- ❖ Moderate to severe pain, usually confined to one side of the head, but switching in successive migraines
- ❖ Pulsing and throbbing head pain
- ❖ Increasing pain during physical activity
- ❖ Inability to perform regular activities due to pain

- ❖ Nausea
 - ❖ Vomiting
 - ❖ Increased sensitivity to light and sound
- Many people experience migraines with auras just before or during the head pain, but most do not. Auras are perceptual disturbances such as confusing thoughts or experiences and the perception of strange lights, sparkling or flashing lights, lines in the visual field, blind spots, pins and needles in an arm or leg, or unpleasant smells. (Figure 1)

Headaches

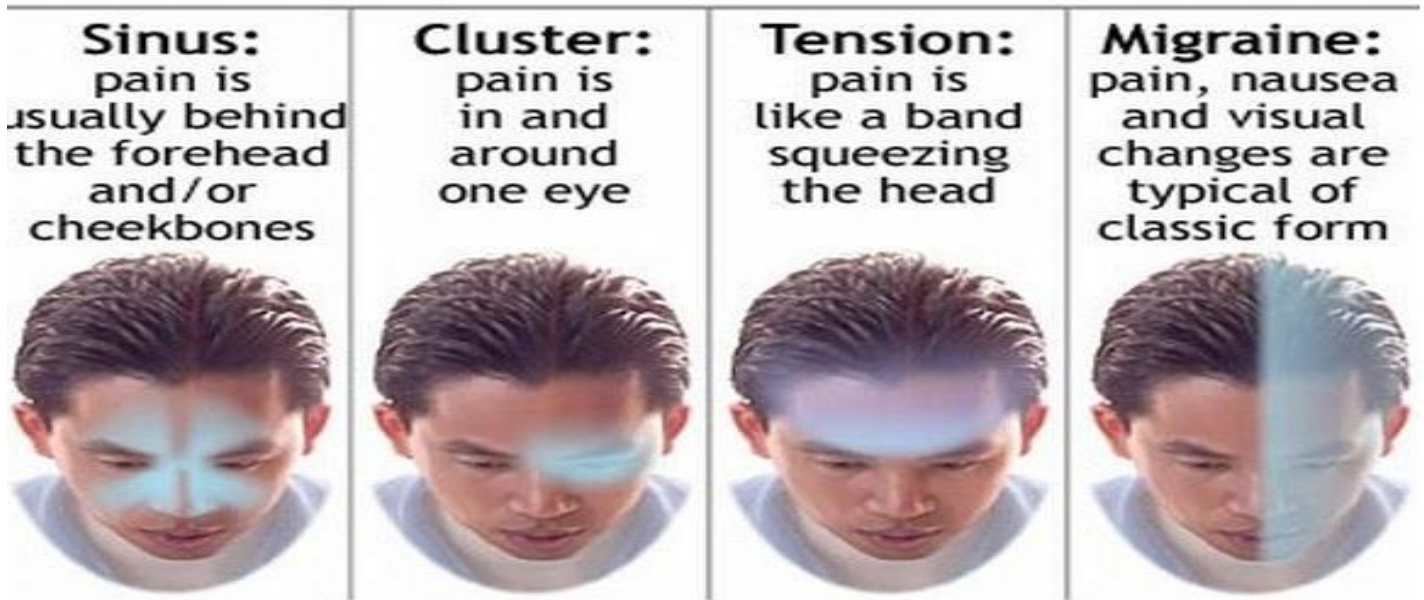


Figure 1: Showing Symptoms of Migraine

NOTE: Researchers from INSERM, the French National Institute of Health and Medical Research in Bordeaux, and Brigham and Women's Hospital in Boston, found that women who have migraines with aura have a higher risk of heart attack, while those taking newer contraceptives may have a greater risk of blood clots.

DIAGNOSIS OF MIGRAINE:

Physicians will look at family medical history and check the patient for the symptoms described above in order to diagnose migraine. The International Headache Society recommends the "5, 4, 3, 2, 1 criteria" to diagnose migraines without aura. This stands for:

- ❖ 5 or more attacks
- ❖ 4 hours to 3 days in duration
- ❖ At least 2 of unilateral location, pulsating quality, moderate to severe pain, aggravation by or avoidance of routine physical activity
- ❖ At least 1 additional symptom such as nausea, vomiting, sensitivity to light, sensitivity to sound.

Tests such as electroencephalography (EEG), computed tomography (CT), magnetic resonance imaging (MRI), and spinal tap may also be performed that check for:

- ❖ Bleeding within the skull
- ❖ Blood clot within the membrane that covers the brain
- ❖ Stroke
- ❖ Dilated blood vessel in the brain
- ❖ Too much or too little cerebrospinal fluid
- ❖ Inflammation of the membranes of the brain or spinal cord
- ❖ Nasal sinus blockage
- ❖ Poetical headache (after stroke or seizure)
- ❖ Tumors

TREATMENT AND PREVENTION:

Migraine treatment (abortive therapies) and prevention (prophylactic therapies) focus on avoiding triggers, controlling symptoms, and taking medicines. Over-the-counter medications such as naproxen, ibuprofen, acetaminophen (paracetamol), and other analgesics

like Excedrin (aspirin with caffeine) are often the first abortive therapies to eliminate the headache or substantially reduce pain. Anti-emetics may also be employed to control symptoms such as nausea and vomiting. Serotonin agonists such as Samaritan may also be prescribed for severe migraines or for migraines that are not responding to the over-the-counter medications. Similarly, some selective serotonin reuptake inhibitors (SSRIs) - antidepressants such as tricycles - are prescribed to reduce migraine symptoms although they are not approved in all countries for this purpose.

Another class of abortive treatments is called ergots, which are usually effective if administered at the first sign of migraine. Other drugs have also been used to treat migraine such as combinations of barbiturates, paracetamol or aspirin, and caffeine (Fioricet or Fiorinal) and combinations of acetaminophen, dichloralphenazone, and isometheptene (Amidrine, Duadrin, and Midrin). If vomiting makes drugs difficult to ingest, anti-emetics will be prescribed.

Migraine prevention begins with avoiding things that trigger the condition (Figure 2). The main goals of

prophylactic therapies are to reduce the frequency, painfulness, and duration of migraine headaches and to increase the effectiveness of abortive therapies.

There are several categories of preventive migraine medicine, ranging from diet changes and exercise to prescription drugs. Some of these include:

- ❖ Prescription beta blockers, anticonvulsants, and antidepressants
- ❖ Botulinum toxin A (Botox)
- ❖ Herbs and vitamins such as butterbur, cannabis, coenzyme Q10, feverfew, magnesium citrate, riboflavin, B12, melatonin
- ❖ Surgery that severs corrugator supercilii muscle and zygomaticotemporal nerve in the brain
- ❖ Spinal cord stimulator implantation
- ❖ Hyperbaric oxygen therapy
- ❖ Vision correction
- ❖ Exercise, sleep, sexual activity
- ❖ Visualization and self-hypnosis
- ❖ Chiropractic care or acupuncture
- ❖ Special diets such as gluten free



Engage in healthy activity, maintain a good diet and get adequate rest

Figure 2: Showing Preventive Measures of Migraine

NOTE: It is possible for people to get medication overuse headache (MOH), or rebound headache, when taking too many medications in an attempt to prevent migraine.

HOW TO MANAGE MIGRAINE:

Medication is a proven way to treat — and prevent — migraines. But medication is only part of the story. It's

also important to take good care of yourself. The same lifestyle choices that promote good health can reduce the frequency and severity of your migraines. In fact, combining lifestyle measures with medication is often the most effective way to handle migraines.

There are various things you can do to help reduce the risk of an attack:

- **KEEP A DIARY:** write down what you ate, drank or did, as well as what was going on before your attack. Identifying your triggers means you can take steps to avoid them^{14, 15}.
 - **EAT AND DRINK REGULARLY:** dieting or fasting can bring on an attack. Having your meals at regular times each day may reduce the chance of a migraine. Eating high protein meals can reduce migraine attacks^{13, 14}. your eating habits can influence your migraines. Consider the basics. Be consistent. Eat at about the same time every day. Don't skip meals. Eating breakfast is especially important. Avoid foods that trigger migraines. If you suspect that a certain food — such as aged cheese, chocolate, caffeine or alcohol — is triggering your migraines; eliminate it from your diet to see what happens.
 - **FOLLOW A REGULAR SLEEP ROUTINE:** try going to bed and awakening at the same time each day. Get enough sleep—but don't oversleep^{14, 15}.
 - **EXERCISE:** go jogging or join a gym. Keeping your body healthy and fit is a great way to reduce migraines¹⁵.
 - **REDUCE STRESS:** regular exercise, deep breathing exercises, yoga, and transcendental meditation can be good stress relievers for many^{13, 14}.
 - **AVOID OVER STIMULATION OF SENSES:** avoid using fluorescent lights. Have your sunglasses handy on sunning days. Steer clear of fragranced soaps and beauty products^{14, 15}.
 - **STOP SMOKING:** smoking is a migraine risk factor. One-third of smokers complain that smoking initiates or exacerbates their migraines. The odours of cigarette smoke can also trigger attacks¹⁴.
 - **BEHAVIORAL TECHNIQUES:** relaxation techniques, thermal and electrical stimulation of the head and management skill programs have all been effective in reducing attacks¹⁴.
 - **PSYCHOLOGICAL SUPPORT:** cognitive behavioral therapy (stress coping) teaches sufferers problem-solving and coping skills that can be used to handle their migraine triggers¹⁴.
 - **PHYSICAL THERAPY:** for some sufferers, migraines are induced by physical trauma. Hot packs, ultrasound and therapeutic massage can help diminish pain¹⁴. Remember that some migraine triggers are unavoidable¹³.
 - **TURN OFF THE LIGHTS.** Migraines often increase sensitivity to light and sound. Relax in a dark, quiet room. Sleep if you can.
 - **TRY TEMPERATURE THERAPY:** Apply hot or cold compresses to your head or neck. Ice packs have a numbing effect, which may dull the sensation of pain. Hot packs and heating pads can relax tense muscles; warm showers or baths may have a similar effect.
 - **MASSAGE PAINFUL AREAS:** Apply gentle pressure to your scalp or temples. Alleviate muscle tension with a shoulder or neck massage.
 - **DRINK A CAFFEINATED BEVERAGE:** In small amounts, caffeine alone can relieve migraine pain in the early stages or enhance the pain-reducing effects of acetaminophen (Tylenol, others) and aspirin. Be careful, however. Drinking too much caffeine too often can lead to withdrawal headaches later on.
 - **ESTABLISH REGULAR SLEEP HOURS:** Wake up and go to bed at the same time every day — even on weekends. If you nap during the day, keep it short. Naps longer than 20 to 30 minutes may interfere with nighttime sleep.
 - **UNWIND AT THE END OF THE DAY:** Anything that helps you relax can promote better sleep: Listen to soothing music, soak in a warm bath or read a favorite book. But watch what you eat and drink before bedtime. Intense exercise, heavy meals, caffeine, nicotine and alcohol can interfere with sleep.
 - **MINIMIZE DISTRACTION:** Save your bedroom for sleep and intimacy. Don't watch television or take work materials to bed. Close your bedroom door. Use a fan to muffle distracting noises.
 - **DON'T TRY TO SLEEP:** The harder you try to sleep, the more awake you'll feel. If you can't fall asleep, read or do another quiet activity until you become drowsy.
 - **CHECK YOUR MEDICATIONS:** Medications that contain caffeine or other stimulants — including some medications to treat migraines — may interfere with sleep.
- MIGRAINE FREE DIET:**
- Research has shown surprising links between migraines and food. Certain foods can cause migraines, while others can prevent or even treat them. Coffee, for example, can sometimes knock out a migraine, and foods rich in magnesium, calcium, complex carbohydrates, and fiber have been used to cure migraines. Some reports suggest that ginger—the ordinary kitchen spice—may help prevent and treat migraines with none of the side effects of drugs. The herb feverfew also effectively prevented migraines in placebo-controlled research studies. Food additives are used to enhance flavors, prevent spoilage or change the colors of food products. There have been no definitive studies showing that they cause migraines, but many migraine sufferers report sensitivity to food additives and this link has been documented by various migraine associations. Although studies indicate general additive safety for use in food, some people may still find that they are sensitive to specific additives (Table 3).

Table 3: Showing Acceptable and Non-Acceptable food Additives for Migraine Patients

Food Group	Allowed	Use With Caution	Avoid
Meat, Fish, Poultry, Eggs	Freshly purchased and prepared meats, fish, and poultry Eggs. Tuna fish, tuna salad (with allowed Fresh chicken, beef, veal, turkey or pork. (Some sausage is made without MSG, natural flavor or onion).	Bacon*,sausage*,corned beef*, bologna*,ham*, any luncheon meats with nitrates or Nitrites added.	Aged, dried, fermented, salted, smoked, or pickled products. Pepperoni, salami, and liverwurst. Non-fresh meat or liver, pickled herring. Any canned tuna with broth. Anchovies. Spam. Canned soups have MSG and sometimes onions.
Dairy	Milk: whole, 2% or skim Cheese: American, cottage, farmer, ricotta, cream cheese, Velveeta, low-fat processed Deli American cheese, American cheese with jalapeno peppers, cottage cheese, ricotta cheese and cream cheese. White milk is ok.	Yogurt, buttermilk, sour cream: ½ cup per day Parmesan* or Romano* as a garnish (2 tsp.) or minor ingredient	Aged cheese: blue, brick, brie cheddar, Swiss, Roquefort, stilton, Mozzarella, provolone etc. Aged cheeses like Cheddar, Monterey Jack, Colby and Swiss. Avoid mozzarella cheese, Brie, sour cream buttermilk and yogurt. Beware of products made with cheese like pizza and hot pockets. Avoid chocolate milk due to the caffeine.
Breads, Cereals, Pasta	Commercially prepared yeast Product leavened with baking Powder: biscuits, pancakes, coffee, cakes, etc. Any white, wheat, rye or pumpernickel store-bought bread. Plain or sesame seed bagels, English muffins, quick breads like pumpernickel or zucchini breads. All yeast bread must be 24 hours old. All cooked and dry cereals All pasta: spaghetti, rotini ravioli,(allowed ingredients), macaroni and egg noodles	Homemade yeast leavened breads and coffee cakes Sourdough breads	Any with a restricted ingredient. Fresh baked bread, either homemade or from the grocer's bakery, fresh donuts, fresh breakfast Danish, nut breads, cheese bread, chocolate bread, raisin bread, bagels with dried fruit like blueberry or cranberry bagels. Remember that pizza is fresh bread.
Vegetables	Asparagus, string beans, beets, Preservative-free bagged lettuce like Fresh Express, peppers, garlic, spring onions, shallots, potatoes (fresh), some frozen mashed potatoes ,broccoli, asparagus, cauliflower, Brussels sprouts, carrots, corn, chick peas, mushrooms, canned or frozen peas, yams, string beans,	Raw onion	Snow peas, fava or broad beans, sauerkraut, pickles and olives Fermented soy products like miso, soy sauce, and teriyaki sauce Onions, sauerkraut, pea pods, broad Italian beans, lima beans, fava beans, navy beans and lentils. Also avoid boxed potato flakes, like instant mashed

	artichokes, red beets, some beans, okra, plain rice, turnips and squash. carrots, spinach, pumpkin, tomatoes, squash		potatoes.
Fruits	Apple, applesauce, cherries, apricots, peaches, any not on restricted list Fresh strawberries, apples, pears, grapes, peaches, nectarines, blueberries, kiwi, apricots, blackberries, cherries, mangoes, honeydew melon and watermelon	Limit intake to ½ cup per day from each group: Citrus: orange, grapefruit, tangerine, pineapple, lemon and lime Avocados, banana, , raisins*, Dried fruit*, papaya, passion fruit, and red plums	Bananas, oranges, grapefruit, lemons, limes, tangerines, pineapples, Clementine, raspberries, plums, papayas, passion fruit, figs, dates, raisins and avocados. Also avoid dried fruits preserved with sulfites.
Nuts, Seeds, Popcorn	Unflavored popcorn that you pop at home, pumpkins seeds, sunflower seeds without natural flavor, sesame seeds and poppy seeds		Cheddar cheese popcorn, some microwave popcorn, all nuts and nut butters, including peanuts
Soups	Soups made from allowed ingredients, homemade broths	Canned soups with autolyzed or hydrolyzed yeast*, meat extracts*, or monosodium glutamate*(MSG)	
Beverages	Decaffeinated coffee, fruit juices, club soda, caffeine-free carbonated beverages Vodka is the best tolerated alcoholic beverage. White milk is ok.	Limited caffeinated beverages to no more than 2 servings per day: Coffee and tea: 1 cup = 1 serving carbonated beverages and hot cocoa or chocolate milk: 12oz = 1 serving Limit alcoholic beverages to one serving: 4oz Riesling wine	Coffee, tea, coffee substitutes, hot chocolate, colas, orange soda, lemon lime soda, mountain Dew, any diet soda containing aspartame or saccharin, Root beer, (they add caffeine to it), chocolate milk, wine, champagne, beer, heavy alcoholic drinks. Alcoholic beverages: Chianti, sherry, burgundy, vermouth, ale, Beer and non-alcoholic fermented beverages.
Desserts, Sweets	Any made with allowed foods and ingredients: sugar, jelly, jam, honey, hard candies, cakes, cookies	Chocolate based products: ice cream (1 cup), pudding (1 cup), cookies (1 average size), cakes (3" cube), and chocolate candies (½oz). (All count as one serving of caffeinated beverage	Mincemeat pie

Ingredients Listed on Food Labels	Any not listed in the restricted section		MSG* (in large amounts), nitrates and nitrites (found mainly in processed meats), yeast, yeast extracts, brewer's yeast, hydrolyzed or autolyzed yeast, meat extracts, meat tenderizers (papain, bromelain) seasoned salt (containing MSG), soy sauce, teriyaki sauce
Fats, Oils, and Miscellaneous	All cooking oils and fats White vinegar Commercial salad dressing with allowed ingredients All spices not listed in restricted ingredients	Wine, apple, or other fermented vinegars*	
Soy products		soy milk, soy Flour, plain tofu and soy oil.	Soy sauce, miso, tempeh, soy burgers, products containing soy protein isolate or Concentrate and soy beans.
DIPS/SAUCES	Buy ingredients to make your own at home.		Dips and sauces usually contain MSG (natural flavoring) or onions. Avoid salsa, chips dips, tomato sauce like Ragu, Alfred or pesto sauce, gravy, mustard dips, barbeque sauce and guacamole (because of the avocados)
SALAD DRESSING	Any oil and distilled white vinegar. (Homemade ranch is good but you won't find that in the grocery store).		Most bottled dressings have one or many of the following; monosodium glutamate, onion or onion powder, grated cheese like Romano or parmesan, natural flavoring, red wine vinegar or balsamic vinegar (or anything other than white).
PIES/CAKES /COOKIES/ CANDY	Blueberry and apple store bought pies if made without lemon juice, vanilla or cinnamon swirl cake, shortbread cookies and vanilla/strawberry wafers, oatmeal cookies without the raisins, rice pudding (no raisins), white chocolate.		Chocolate, chocolate candy, nuts, buttermilk, sour cream, dried fruit (some apricot pies start with dried apricots), peanut
PRETZELS/ CHIPS	All plain pretzels and plain potato chips, Tostitos 100% corn chips, Frito's corn chips, Herr's salt and		What to avoid—Soft pretzels, honey and mustard pretzels, onion and garlic pretzels or other

	vinegar chips.		seasoned pretzels. Avoid Pringles, Doritos Nacho chips, jalapeno chips and most other seasoned chips. Butter, lemon extract or lemon juice, almond extract and coconut. Avoid diet and sugar-free products that contain aspartame.
CEREAL	Many cereals are fine. For example: Cheerios, Life, Honey Bunches of Oats, Crackling' Bran, Frosted Flakes, Frosted Shredded Wheat		Cereal with nuts, raisins, chocolate, dried fruit, aspartame, peanut butter or coconut.

CONCLUSION:

- Each day eat three meals with a snack at night or six small meals spread throughout the day.
- Avoid eating high sugar foods on an empty stomach, when excessively hungry, or in place of a meal.
- All food, especially high protein foods, should be prepared and eaten fresh. Be cautious of leftovers held for more than one or two days at refrigerator temperature. Freeze leftovers that you want to store for more than 2 or 3 days.
- Cigarette and cigar smoke contain a multitude of chemicals that will trigger or aggravate your headache. If you smoke, make quitting a high priority. Enter a smoking cessation program.
- The foods listed in the "CAUTION" column have smaller amounts of Tyramine or other vaso active compounds. Foods with an * may contain small amounts of Tyramine. Other foods in the "USE WITH CAUTION" column do not contain Tyramine but are potential headache "triggers". If you are taking an MAO inhibitor (Monoamine Oxidase Inhibitor) you should test the use of restricted foods in limited amounts.
- Each person may have different sensitivities to certain level of Tyramine or other vasoactive compounds in foods. If you are not on an MAO inhibitor, you should test the use of restricted foods in limited amounts.
- Adapted from the Columbus Hospital & Diamond Headache Clinic Low Tyramine Headache Diet

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