

Migraine headache

Also listed as: Headache - migraine

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Migraines are severely painful, recurrent headaches that are sometimes accompanied by other symptoms such as visual disturbances (aura) or nausea. There are two types of migraine – migraine with aura (formerly called common migraines) and migraine without aura (formerly called classic migraines). If you have a migraine with aura, you may experience a visual disturbance (like seeing stars or zigzag lines or a temporary blind spot) about 30 minutes before the headache starts. Even if you don't experience an aura, you may have other warning signs in the period before the headaches starts (called prodrome), such as a craving for sweets, thirst, sleepiness, or depression. Although there is no cure for migraines, you can manage the condition by reducing the frequency of attacks and lessening pain once an attack starts.

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Signs and Symptoms

The headache from a migraine, with or without aura, has the following characteristics:

- Throbbing, pounding, or pulsating pain
- Often begins on one side of your head and may spread to both or stay localized
- Most intense pain is often concentrated around the temple(s) (side of the forehead)
- Can last from 4 - 72 hours

These symptoms may occur at the same time or before the headache:

- Nausea and vomiting
- Dizziness, lightheadedness, or even vertigo (feeling like the room is spinning)
- Loss of appetite
- Fatigue
- Visual disturbances, like seeing flashing lights or zigzag lines, temporary blind spots (for example, loss of your peripheral vision), or blurred vision
- Parts of your body may feel numb, weak, or tingly
- Light, noise, and movement – especially bending over – make your head hurt worse; you want to lie down in a dark, quiet room
- Irritability

Symptoms that may linger even after the headache is gone:

- Feeling mentally dull, like your thinking is not clear or sharp
- Sleepiness
- Neck pain

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Causes

Researchers aren't sure what causes a migraine, although they know it involves changes in the blood flow in the brain. Initially, blood vessels constrict (narrow), reducing blood flow and leading to visual disturbances, difficulty speaking, weakness, numbness, or tingling sensation in one area of the body, or other similar symptoms. Later, the blood vessels dilate (enlarge) leading to increased blood flow and a severe headache. There also seems to be a genetic link to migraine headaches. Over half of migraine patients have an affected family member. Migraine triggers can include the following:

- Alcohol, especially beer and red wine
- Certain foods, such as aged cheeses, chocolate, nuts, peanut butter, some fruits (like avocado, banana, and citrus), foods with monosodium glutamate (MSG), onions, dairy products, meats containing nitrates (bacon, hot dogs, salami, cured meats) fermented or pickled foods
- Skipping meals
- Crying
- Fluctuations in hormones (for example, during pregnancy, before and during your period, and menopause)
- Certain odors, such as perfume or smoke
- Bright lights
- Loud noises
- Stress, physical or emotional (often, the headache occurs during a period of relaxation after a particularly stressful time)
- Sleeping too little or too much
- Caffeine
- Smoking or exposure to tobacco smoke
- Some medications
- Heat, high humidity, and high altitude

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Risk Factors

- Gender (women are nearly 3 times more likely to get migraines than men)
- Having other family members with migraine headaches
- Being under age 40; migraines tend to diminish as you age
- Taking birth control pills (if your migraines are affected by fluctuations in estrogen levels)
- Exposure and sensitivity to any of the potential triggers listed above

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Diagnosis

Your doctor will take a detailed medical history in order to distinguish migraine headaches from other types of headaches, such as tension or sinus. He or she will ask questions about when your headaches occur, how long they last, how frequently they come on, the location of the pain, and

any symptoms that accompany or precede the headaches. Sometimes it helps to keep a diary about your headaches prior to seeing the doctor, so you'll have an accurate recording of how often they happen. (See Lifestyle section for what information to include in a diary.)

Tests your doctor may order, depending on your symptoms and exam, include:

- Computerized tomography (CT) scan, to look for other problems that could be causing your headache
- Magnetic resonance imaging (MRI), to look for brain abnormalities, and to look closely at the blood vessels in the brain
- Lumbar puncture (spinal tap), if your doctor suspects meningitis or other conditions

You should seek emergency help if you experience the following symptoms:

- You have unusual neurologic symptoms you have not experienced before, such as speech problems, change in vision, loss of balance, or difficulty moving a limb
- Your headache pattern or intensity is different
- You are experiencing "the worst headache of your life"
- Your headache worsens when you are lying down

These may indicate a stroke, a bleed in the brain, or other serious condition.

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Treatment Approach

Treatment for migraines is aimed at preventing them from occurring and lessening pain once an attack starts.

You can control your migraines with a combination of medications, lifestyle changes, and complementary therapies. Biofeedback (see Mind/Body Medicine) may help you control the initial contraction of blood vessels, while relaxation techniques may reduce both the frequency and intensity of attacks.

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Lifestyle

Keeping a migraine diary, particularly when you first begin to experience migraines, can help identify the triggers for your headaches so you can avoid them. When a migraine occurs, write down the date and time it began. Note what you ate for the preceding 24 hours, how long you slept the night before, what you were doing just before the headache, any unusual stress in your life, how long the headache lasted, and what you did to make it stop.

Other lifestyle measures that may reduce the number of migraines include:

- Avoiding cigarettes, caffeine, and alcohol
- Exercising regularly
- Getting enough sleep each night
- Relaxing and reducing stress in your life (see Mind/Body Medicine section)
- Eating regular meals

Once a headache or associated migraine symptoms begin, it helps to:

- Rest in a quiet, darkened room

- Drink fluids to avoid dehydration (especially if you have vomited)



Medications

Medications for migraines can be classified in two major categories: those designed to prevent attacks, and those designed to relieve pain.

Drugs for Prevention

Your doctor may prescribe preventive medications if you have two or more migraines per month, use pain relievers more than twice a week, or if your symptoms are especially debilitating. Depending on your condition and medication, your doctor may recommend taking the medication daily or when a known trigger is about to occur (such as having your period).

- Beta-blockers -- also used to treat heart disease; researchers aren't sure why they also work for migraines, although they may help keep blood vessels in the brain from constricting and dilating. Beta-blockers include:
 - Atenolol (Tenormin)
 - Metoprolol (Lopressor, Toprol-XL)
 - Propranolol (Inderal, Inderal LA)
- Calcium-channel blockers -- another type of cardiovascular drug that can help prevent migraines, including:
 - Verapamil (Calan, Isoptin)
 - Diltiazem (Cardizem, Dilacor)
- Antidepressants -- Tricyclic antidepressants are helpful in preventing all kinds of headaches, including migraines. Tricyclic antidepressants include:
 - Amitriptyline (Elavil)
 - Nortriptyline (Pamelor)
 - Doxepin (Sinequan)
 - Imipramine (Tofranil)
- Anticonvulsants -- Some antiseizure drugs help prevent migraines, although researchers aren't sure why:
 - Divalproex sodium (Depakote)
 - Topiramate (Topamax)

Drugs for Treatment

To be effective, these medications should be taken as soon as you feel a migraine coming on.

- Triptans -- This class of medications tends to be the front-line treatment for severe migraines and relieve pain, nausea, and sensitivity to light and sound. They work by constricting the blood vessels in the brain. Triptans include:
 - Almotriptan (Axert)
 - Eletriptan (Relpax)
 - Frovatriptan (Frova)

Naratriptan (Amerge)

Rizatriptan (Maxalt)

Sumatriptan (Imitrex)

Zolmitriptan (Zomig)

- Ergots -- Ergots also work by constricting blood vessels, but tend to have more side effects than triptans. Ergots include:

Ergotamine (Ergomar, Cafergot)

Dihydroergotamine (Migranal)

- Isometheptene, dichloralphenazone, and acetaminophen (Midrin) -- Midrin combines a pain reliever (acetaminophen) and sedative (dichloralphenazone) with a medication that constricts blood vessels (isometheptene) to prevent migraines.

Other medications used to treat the headache pain or associated symptoms:

- Antinausea drugs
- Acetaminophen (Tylenol) for pain
- Ibuprofen (Advil, Motrin) or other nonsteroidal anti-inflammatory drugs (NSAIDs)
- Narcotics, such as codeine, are sometimes used for people who can't take triptans or ergots; however, they can cause dependency and rebound headaches

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Nutrition and Dietary Supplements

Diet

The following foods may trigger migraine headaches:

- Chocolate
- Cheese
- Monosodium glutamate (MSG), a flavor enhancer found often in food from Chinese restaurants
- Foods containing the amino acid tyramine (found in red wine, aged cheese, smoked fish, chicken livers, figs, and some beans)
- Nuts
- Peanut butter
- Some fruits (like avocado, banana, and citrus)
- Onions
- Dairy products
- Meats containing nitrates (bacon, hot dogs, salami, cured meats)
- Fermented or pickled foods

If you suspect that any of these foods cause your migraines, try eliminating all the items on this list from your diet and then reintroducing them one at a time. Pay close attention to when the

number of headaches increases after eating particular foods. Then you know which trigger foods to avoid. Food allergy testing may be required to determine your specific sensitivities or triggers.

Supplements

- 5-hydroxytryptophan (5-HTP, 400 - 600 mg per day) -- This amino acid is made by the body from tryptophan (another amino acid you get from certain foods) and converted into serotonin, an important brain chemical. Researchers think abnormal serotonin function in blood vessels is related to migraines, and some of the drugs used to treat migraines work by affecting serotonin. Several studies indicate that 5-HTP may be about as effective as some prescription migraine medications, reducing the intensity and frequency of attacks. But not all studies agree – one study found that 5-HTP was less effective than the beta-blocker Inderal. More studies are needed to be sure that 5-HTP is helpful in treating migraines. If you take an antidepressant, or supplements such as St. John's wort or SAMe, you should not take 5-HTP.
- Magnesium (200 - 600 mg per day) -- People with migraines often have lower levels of magnesium compared to people who do not have migraines, and several studies suggest that magnesium may reduce the frequency of migraine attacks. In one study, people who took magnesium reduce the frequency of attacks by 41.6%, compared to 15.8% in those who took placebo. Some studies also suggest that magnesium may be helpful for women whose migraines are triggered by their periods. Side effects from magnesium can include lower blood pressure and diarrhea.
- Vitamin B2 (riboflavin, 400 mg per day) -- A few studies indicate that riboflavin may reduce the frequency and duration of migraines. In one study, people who took riboflavin had more than a 50% decrease in the number of attacks. Not all studies have found riboflavin to be effective, however. More research is needed.

Preliminary research indicates that these supplements may also help prevent migraines, although more research is needed to say for sure:

- Coenzyme Q10 (100 mg 3 times per day)
- Melatonin (5 mg per day, taken before bedtime)

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Herbs

The use of herbs is a time-honored approach to strengthening the body and treating disease. Herbs, however, can trigger side effects and can interact with other herbs, supplements, or medications. For these reasons, you should take herbs with care, under the supervision of a health care practitioner.

- Butterbur (*Petasites hybridus*, 50 - 75 mg of a standardized extract 2 times per day) -- A few studies suggest that butterbur may help reduce both the frequency and duration of migraine attacks. The studies used a standardized extract that lowered the amount of alkaloids in the herb, which might potentially harm the liver. If you want to try butterbur for your migraines, ask your doctor about a safe extract and dose. Women who are pregnant or breastfeeding should not take butterbur.
- Feverfew (*Tanacetum parthenium*, 50 - 80 mg per day) -- Feverfew has been used traditionally to treat headaches, and several well-designed studies have found that it may help prevent and treat migraines (not all studies agree, however). In one study of people with migraines, those who took feverfew capsules every day for 4 months saw a substantial drop in the number of attacks as well as far fewer symptoms, such as nausea and vomiting, compared to those who received placebo. Feverfew can increase the risk of bleeding, and should not be taken with anticoagulants (blood thinners). Women who are pregnant or breastfeeding should not take feverfew.

Although there are no scientific studies showing that these herbs work, they are sometimes suggested to treat migraines and other types of headaches. Note: people who take blood thinning medications or who have bleeding disorders should not take these herbs:

- Dong quai (*Angelica sinensis*)
- Devil's claw (*Harpagophytum procumbens*)
- Ginger (*Zingiber officinale*)
- Ginkgo biloba (*Ginkgo biloba*)
- Willow bark (*Salix spp.*)

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Acupuncture

Acupuncture has been studied as a treatment for migraine headache for more than 20 years. While not all studies have shown benefit with acupuncture, researchers do agree that acupuncture appears safe and that it may be effective for some people. Results from a study published in 2003 suggest that receiving an acupuncture treatment when migraine symptoms first begin is as effective as taking the drug Imitrex; as symptoms continue, however, the medication works better than acupuncture.

In addition to needling treatment, acupuncturists may recommend lifestyle changes, such as suggestions for specific breathing techniques, qi gong exercise, and dietary modifications.

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Chiropractic

Several clinical trials indicate that spinal manipulation therapy may help in the treatment of migraine headaches. In one study of people with migraines, 22% of those who received chiropractic manipulation reported more than a 90% reduction of attacks and 49% reported a significant reduction of the intensity of each migraine.

In another study, people with migraine headaches were randomly assigned to receive spinal manipulation, a daily medication (Elavil), or a combination of both. Spinal manipulation was as effective as Elavil in reducing migraines and had fewer side effects. There was no added benefit to combining the two therapies.

In addition, researchers reviewed 9 studies that tested spinal manipulative therapy for tension or migraine headaches and found that it was as effective as medications in preventing these headaches.

However, not all of these studies were good quality, and they varied in the techniques used. More research is needed to say for sure whether chiropractic is effective for preventing migraines.

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Massage and Physical Therapy

Reflexology, a technique that places pressure on specific "reflex points" on the hands and feet that are believed to correspond to areas throughout the body, has been proposed as a treatment for migraines. Some early studies suggest it may relieve pain and allow people with migraines to take less pain medication. However, more research is needed. Practitioners believe reflexology helps you become more aware of you own body signals, which might help you sense the subtle signals that indicate a migraine is about to occur (before pain starts). They also believe reflexology helps improve general well-being and energy level.

Homeopathy

One of the most common reasons people seek homeopathic care is to treat chronic headaches. However, only 1 out of 4 studies included in a scientific review found that individually prescribed homeopathic remedies significantly reduced the frequency, severity, and duration of migraines. Some of these effective remedies are listed below. Professional homeopaths may also recommend various treatments based on their knowledge and clinical experience. Before prescribing a remedy, homeopaths take into account the individual's constitutional type. In homeopathic terms, a person's constitution is his or her physical, emotional, and intellectual makeup. An experienced homeopath assesses all of these factors when determining the most appropriate remedy for a particular individual.

The following are some of the remedies found to be effective:

- *Belladonna* -- for throbbing headaches that come on suddenly; these types of headaches tend to worsen with motion and light, but are partially relieved by pressure, standing, sitting, or leaning backwards
- *Bryonia* -- for headaches with a steady, sharp pain in the forehead that may radiate to the back of the head; these types of headaches worsen with movement and light touch, but improve with firm pressure; this remedy is most appropriate for individuals who are irritable and may also experience nausea, vomiting, and constipation
- *Gelsemium* -- for pain that extends around the head and feels like a tight band of constriction; pain usually originates in the back of the head and may be relieved following urination; this remedy is most appropriate for individuals who feel extremely weak and have difficulty keeping their eyes open
- *Ignatia* -- for pain that may be described as a feeling of something being driven into the skull; these types of headaches tend to be triggered by emotion, including grief or anxiety, and the treatment is appropriate for both children and adults
- *Iris versicolor* -- for periodic migraines that begin with blurred vision, especially after eating sweets; pain usually occurs on one side of the head and may be partially relieved by gentle movement and/or fresh air
- *Kali bichromicum* -- for aching and pressing pains on the forehead (particularly between and behind the eyes); may be accompanied by sinus congestion or nausea and vomiting; this remedy is most appropriate for individuals who prefer to lie down in a dark room and who experience relief from warmth and eating
- *Lachesis* -- for migraines on the left side of the head that are typically worse in the mornings and before menstruation; this type of headache is aggravated by warmth and sunlight and relieved by open air and firm pressure
- *Natrum muriaticum* -- one of the most common remedies used for migraine headaches, particularly those that are described as "hammers beating the head;" pain is relieved when the individual is lying down, alone, in a quiet dark room; these migraines may be associated with either menstruation or a grieving experience and are worse in the middle of the day; this remedy is most appropriate for children who look pale and feel nauseated, nervous, and emotional
- *Nux vomica* -- for headaches that are described as a "nail being driving into the head;" often accompanied by nausea and/or dizziness; this remedy is most appropriate for individuals who are constipated and irritable
- *Sanguinaria* -- for right-sided headaches that begin in the neck and move upwards, recur in a predictable pattern (such as every seven days), and are accompanied by nausea and

vomiting; pain is aggravated by motion, light or sun exposure, odors, and noise; this remedy is appropriate for children who may have a craving for spicy or acidic foods, despite having a general aversion to eating due to the headache

- *Sepia* -- for migraines that are accompanied by nausea and are relieved when the individual is lying down; light and movement tend to worsen symptoms; this remedy is most appropriate for individuals who are moody and don't like being alone, but worry about being with others

Homeopaths may also prescribe the following remedies based on their knowledge and clinical experience:

- *Pulsatilla* -- for headaches triggered by eating rich, fatty foods, particularly ice cream; pain tends to move but may be concentrated in the forehead or on one side of the head; may be accompanied by digestive problems or occur around the time of menstruation; children for whom this remedy is appropriate often develop these symptoms while at school
- *Spigelia* -- for migraines described as a stinging, burning, or throbbing pain, often on the left side of the head; symptoms tend to worsen with exposure to cold weather and with motion, but are temporarily relieved by cold compresses and when the individual is lying on the right side with the head propped up

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Mind/Body Medicine

Reducing and learning to cope with stress may help reduce the number and intensity of your headaches. Techniques that can help include:

- Self hypnosis
- Biofeedback
- Joining a support group
- Relaxation techniques such as progressive muscle relaxation (alternately contracting and releasing muscles throughout your body), meditation, and guided imagery
- Psychotherapy

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Other Considerations

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Pregnancy

Many of the medications, herbs, and supplements used to prevent or treat migraines should not be used if you are pregnant. Talk to your doctor before using any medication (over the counter or prescription) or any complementary therapy available prior to becoming pregnant. Some doctors may recommend treating mild to moderate attacks during pregnancy with acetaminophen.

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Warnings and Precautions

Use medications only as directed. Using some medications on a regular basis can cause rebound headaches.

Call your doctor if you experience a new headache, a change in quality of a previous headache or headache pattern, or if a medication that usually takes away the pain no longer works.

Prognosis and Complications

Migraine headaches generally don't pose a threat to your overall health, although they can be chronic, recurrent, frustrating, and interfere with your day to day life. Stroke is an extremely rare complication from severe migraines, possibly due to prolonged constriction (narrowing) of blood vessels, reducing the blood flow to parts of the brain. Other studies show that migraine headaches are associated with cardiovascular disease. People who have migraines are up to 4 times more likely to suffer from depression. Migraine patients also have an increased rate of anxiety and panic disorders.

Many people find that migraines into remission (meaning that they stop for a long time and happen only very infrequently) or even disappear altogether, especially as you get older. For women, this may be related to lower levels of estrogen after menopause.

Supporting Research

Annequin D, Tourniaire B, Massiou H. Migraine and headache in childhood and adolescence. *Pediatr Clin North Am.* 2000;47(3):617-631.

Astin JA., Ernst E. The effectiveness of spinal manipulation for the treatment of headache disorders: a systematic review of randomized clinical trials. *Cephalalgia.* 2002;22(8):617-623.

Baghdikian B, Lanhers M, Fleurentin J, et al. An analytical study, anti-inflammatory and analgesic effects of *Harpagophytum procumbens* and *Harpagophytum zeyheri*. *Planta Med.* 1997;63:171-176.

Barrows KA, Jacobs BP. Mind-body medicine: an introduction and review of the literature. *Med Clin North Am.* 2002;86(1):11-31.

Bauman RJ. Behavioral treatment of migraine in children and adolescents. *Paediatr Drugs.* 2002;4(9):555-561.

Birdsall TC. 5-Hydroxytryptophan: a clinically-effective serotonin precursor. *Alt MedReview.* 1998;3(4):271-280.

Blumenthal M. *The Complete German Commission E Monographs.* Austin, Tex: American Botanical Council. Boston: Integrative Medicine Communications; 1998.

Bronfort G, Assendelft WJ, Evans R, Haas M, Bouter L. Efficacy of spinal manipulation for chronic headache: a systematic review. *J Manipulative Physiol Ther.* 2001;24(7):457-466.

Cady RK, Schreiber CP. Sinus headache or migraine? Considerations in making a differential diagnosis. *Neurology.* 2002;58(9 Suppl 6):S10-S14.

Cummings S, Ullman D. *Everybody's Guide to Homeopathic Medicines.* 3rd ed. New York, NY: Penguin Putnam; 1997: 217-220, 343.

Dagenais S, Haldeman S. Chiropractic. *Prim Care.* 2002;29(2):419-437.

DeBenedittis G, Massei R. Serotonin precursors in chronic primary headache. A double-blind cross-over study with L-5-hydroxytryptophan vs. placebo. *J Neurosurg Sci.* 1985; 29:239-248.

DeGiorgis G, et al. Headache in association with sleep disorders in children: a psychodiagnostic evaluation and controlled clinical study—L-5-HTP versus placebo. *Drugs Exp Clin Res.* 1987;13:425-433.

Diener HC, Pfaffenrath V, Schnitker J, et al. Efficacy and safety of 6.25 mg t.i.d. feverfew CO₂-extract (MIG-99) in migraine prevention – a randomized, double-blind, multicentre, placebo-controlled study. *Cephalalgia.* 2005;25:1031-41.

De Weerd CJ, Bootsma HPR, Hendricks H. Herbal medicines in migraine prevention. Randomized double-blind placebo controlled crossover trial of a feverfew preparation. *Phytomedicine*. 1996;3:225-230.

Demirkaya S, Vural O, Dora B, Topcuoglu MA. Efficacy of intravenous magnesium sulfate in the treatment of acute migraine attacks. *Headache*. 2001;41(2):171-177.

Diener HC, Kaube H, Limmroth V. A practical guide to the management and prevention of migraine. *Drugs*. 1998;56(5):811-824.

Endres HG, Diener HC, Molsberger A. Role of acupuncture in the treatment of migraine. *Expert Rev Neurother*. 2007 Sep;7(9):1121-34. Review.

Ernst, E. Homeopathic prophylaxis of headaches and migraine? A systematic review. *J Pain Symptom Manage*. 1999;18(5):353-357.

Ernst E, Pittler MH. The efficacy and safety of feverfew (*Tanacetum parthenium* L.): an update of a systematic review. [Review] *Public Health Nutr*. 2000;3(4A):509-514.

Evans R. Migraine: A Question and Answer Review. *Medical Clinics of North America*. 2009;93(2).

Facchinetti F, Sances G, Borella P, Genazzani AR, Nappi G. Magnesium prophylaxis of menstrual migraine: effects on intracellular magnesium. *Headache*. 1991;31(5):298-301.

Ferri: *Ferri's Clinical Advisor 2009, 1st ed*. Philadelphia, PA: Mosby Elsevier. 2009.

Gao S, Zhao D, Xie Y. A comparative study on the treatment of migraine headache with combined distant and local acupuncture points versus conventional drug therapy. *Am J Acupuncture*. 1999;27(1-2):27-30.

Gobel H, Schmidt G, Soyka D. Effect of peppermint and eucalyptus oil preparations on neurophysiological and experimental algesimetric headache parameters. *Cephalalgia*. 1994;14(3):228-234.

Goldman L, Ausiello D. *Goldman: Cecil Medicine, 23rd ed*. Philadelphia, PA: Saunders Elsevier Inc, 2007.

Goslin RE, Gray RN, McCrory DC, Penzien D, Rains J, Hasselblad V. Evidence report: Behavioral and physical treatments for migraine. Technical Review, 2.2, February 1999. Prepared for the Agency for Health Care Policy and Research under contract number. 290-94-2025.

Hesse J, Mogelvang B, Simonsen H. Acupuncture versus metoprolol in migraine prophylaxis: a randomized trial of trigger point inactivation. *J Intern Med*. 1994;235:451-456.

Johnson ES, Kadam NP, Hylands DM, Hylands PJ. Efficacy of feverfew as prophylactic treatment of migraine. *Br Med J*. 1985;291:569-573.

Launso L, Brendstrup E, Arnberg S. An exploratory study of reflexological treatment for headache. *Altern Ther Health Med*. 1999;5(3):57-65.

Linde K, Melchart D, Fisher P et al. Acupuncture for idiopathic headache (Cochrane Review). In: *The Cochrane Library*, Issue 3, 2001. Oxford: Update Software.

Lipton RB, Göbel H, Einhüpl KM, Wilks K, Mauskop A. *Petasites hybridus* root (butterbur) is an effective preventive treatment for migraine. *Neurology*. 2004 Dec 28;63(12):2240-4.

Manias P, Tagaris G, Karageorgiou K. Acupuncture in headache: a critical review. *Clin J Pain*. 2000;16(4):334-339.

Mauskop A. Alternative therapies in headache. Is there a role? [Review] *Med Clin North Am*. 2001;85(4):1077-1084.

- Mauskop A, Altura BM. Role of magnesium in the pathogenesis and treatment of migraines. *Clin Neurosci*. 1998;5(1):24-27.
- Mauskop A, Altura BT, Altura BM. Serum ionized magnesium levels and serum ionized calcium/ionized magnesium ratios in women with menstrual migraine. *Headache*. 2002;42(4):242-248.
- Melchart D, Linde K, Fischer P, et al. Acupuncture for recurrent headaches: a systematic review of randomized controlled trials. *Cephalalgia*. 1999;19(9):779-786;discussion 765
- Melchart D, Thormaehlen J, Hager S, Liao J, Linde K, Weidenhammer W. Acupuncture versus placebo versus sumatriptan for early treatment of migraine attacks: a randomized controlled trial. *J Intern Med*. 2003;253(2):181-188.
- Mueller L. Tension-type, the forgotten headache. How to recognize this common but undertreated condition. *Postgrad Med*. 2002;111(4):25-26, 31-32, 37-38.
- Murphy JJ, Heptinsall S, Mitchell JRA. Randomised double-blind placebo-controlled trial of feverfew in migraine prevention. *Lancet*. 1988;2:189-192.
- Nelson CF, Bronfort G, Evans R, Boline P, Goldsmith C, Anderson AV. The efficacy of manipulation, amitriptyline and the combination of both therapies for the prophylaxis of migraine headache. *J Manipulative Physiol Ther*. 1998;21(8):511-519.
- Oelkers-Ax R, Leins A, Parzer P, Hillecke T, Bolay HV, Fischer J, et al. Butterbur root extract and music therapy in the prevention of childhood migraine: An explorative study. *Eur J Pain*. 2007 Jul 27; [Epub ahead of print]
- Palevitch D, Earon G, Carasso R. Feverfew (*Tanacetum parthenium*) as a prophylactic treatment for migraine: a double-blind controlled study. *Phytotherapy Res*. 1997;11:508-511.
- Peikart A, Wilimzig C, Kohne-Volland R. Prophylaxis of migraine with oral magnesium: results from a prospective, multi-center, placebo-controlled and double-blind randomized study. *Cephalalgia*. 1996;16(4):257-263.
- Penzien DB, Rains JC, Andrasik F. Behavioral management of recurrent headache: three decades of experience and empiricism. *Appl Psychophysiol Biofeedback*. 2002;27(20):163-181.
- Pfaffenrath V, Diener HC, Fischer M, Friede M, Henneicke-von Zepelin HH; Investigators. The efficacy and safety of *Tanacetum parthenium* (feverfew) in migraine prophylaxis – a double-blind, multicentre, randomized placebo-controlled dose-response study. *Cephalalgia*. 2002;22(7):523-532.
- Pfaffenrath V, Wessely P, Meyer C, et al. Magnesium in the prophylaxis of migraine – a double-blind placebo-controlled study. *Cephalalgia*. 1996;16(6):436-440.
- Pittler MH, Ernst E. Feverfew for preventing migraine (*Cochrane Review*). In: The Cochrane Library, Issue 3, 2004. Chichester, UK: John Wiley & Sons, Ltd.
- Pittler MH, Vogler BK, Ernst E. Feverfew for preventing migraine. [Review] *Cochrane Database Syst Rev*. 2000;(3):CD002286.
- Pryse-Phillips W. Guideline for the diagnosis and management of migraine in clinical practice. *Can Med Assoc J*. 1997;156:1273-1287.
- Pryse-Phillips WE, Dodick DW, Edmeads JG, et al. Guidelines for the nonpharmacologic management of migraine in clinical practice. Canadian Headache Society. *Can Med Assoc J*. 1998;159(1):47-54.
- Rotblatt M, Ziment I. *Evidence-Based Herbal Medicine*. Philadelphia, PA: Hanley & Belfus, Inc; 2002:188-192.

- Savi L, Rainero I, Valfre W, Gentile S, Lo Giudice R, Pinessi L. A comparison of patients with migraine and tension-type headache. *Panminerva Med.* 2002;44(1):27-31.
- Silberstein SD, Goadsby PJ, Lipton RB. Management of migraine: an algorithmic approach. [Review]. *Neurology.* 2000;55(9 Suppl 2):S46-52
- Streng A, Linde K, Hoppe A, Pfaffenrath V, Hammes M, Wagenpfeil S, et al. Effectiveness and tolerability of acupuncture compared with metoprolol in migraine prophylaxis. *Headache.* 2006 Nov-Dec;46(10):1492-502.
- Trauninger A, Pfund Z, Koszegi T, Czopf J. Oral magnesium load test in patients with migraine. *Headache.* 2002;42(2):114-119.
- Tuchin PJ, Pollard H, Bonello R. A randomized controlled trial of spinal manipulative therapy for migraine. *J Manipulative Physiol Ther.* 2000;23(2):91-95.
- Ullman D. *Homeopathic Medicine for Children and Infants.* New York, NY: Penguin Putnam; 1992:91-94.
- Ullman D. *The Consumer's Guide to Homeopathy.* New York, NY: Penguin Putnam; 1995: 236-239.
- Vogler BK, Pittler MH, Ernst E. Feverfew as a preventive treatment for migraine: a systematic review. *Cephalalgia.* 1998;18(10):704-708.
- Walach H, Haeusler W, Lowes T et al. Classical homeopathic treatment of chronic headaches. *Cephalalgia.* 1997;17:119-126.
- Walach H, Lowes T, Mussbach D et al. The long-term effects of homeopathic treatment of chronic headaches: 1 year follow up. *Cephalalgia.* 2000;20:835-837.
- Walach H, Lowes T, Mussbach D et al. The long-term effects of homeopathic treatment of chronic headaches: one year follow-up and single case time series analysis. *Br Homeopath J.* 2001;90(2):63-72.
- Welch KM. Pathogenesis of migraine. *Semin Neurol.* 1997;17(4):335-341.
- White AR, Resch KL, Chan JC, et al. Acupuncture for episodic tension-type headache: a multicentre randomized controlled trial. *Cephalalgia.* 2000;20(7):632-637.