UC Berkeley | UNIVERSITY HEALTH SERVICES

2222 Bancroft Way #4300
Berkeley, CA 94720-4300
(510) 642-2000
uhs.berkeley.edu

Headaches and Migraines

Headaches are a common health problem. When severe, they can affect quality of life and lessen productivity in school and in the workplace. Headaches are often treatable with medications and/or lifestyle changes. Your UHS clinician is available to evaluate your symptoms and help you find strategies for headache relief.

Tension and migraine headaches are the two most common types. These two types often overlap in their symptoms and their response to medication. Modes of relief and triggering factors vary from person to person.

Typical Tension headache symptoms may include:

- Dull, steady pain with a tight band-like or vise-like gripping pressure
- Pain intensity is mild compared to migraine
- Pain may be felt in the forehead, temples, back of the neck, or throughout the head
- Muscles in the back of the upper neck may feel knotted and tender to the touch
- Symptoms usually subside within a few hours

Tension headaches are often associated with stress, fatigue, or muscle strain. Activities that put the head and neck in a tense, prolonged posture (i.e., reading, keyboarding, gum chewing, or teeth grinding) can trigger tension headaches.

Migraine characteristics include:

- Pain typically on one side of the head
- Pain has a pulsating or throbbing quality
- Moderate to intense pain affecting daily activity
- Nausea or vomiting
- Sensitivity to light and sound
- Attacks last 4 to 72 hours, sometimes longer
- Visual disturbances or aura (e.g., wavy lines, dots, flashing lights, and blind spots or disruptions in smell, taste, or touch) from 20-60 minutes before the onset of headache
- Exertion (e.g., climbing stairs or running) worsens the headache.

Migraine headaches are three times more common in women than in men. Family history of migraine is present in 70-80% of sufferers. Many women experience migraines related to the hormonal changes of menstruation, oral contraceptives, pregnancy, post-partum, and menopause. If headaches become more frequent and intense with oral contraceptive use, it is important to inform your clinician. In some instances, a change in the type of oral contraceptive pill will lessen or alleviate the headaches. In other instances, the pill or hormone treatment must be discontinued.

Over-the-counter or prescription medications are often useful in the pain management of migraines. It is possible, however, to worsen headaches with frequent medication use. Talk with your clinician about all prescription, over-the-counter, or herbal products you are taking for headache treatment. Your clinician will work with you to identify the best strategy for headache relief and prevention.

Many people find relief from headaches with relaxation and other self-care techniques. Rest in a darkened room, along with cool compresses, massage, and a nap, are examples. Drink plenty of fluids to avoid dehydration.

Common headache triggers include:

- Stress or strong emotion
- Nuts and peanut butter
- Smoke, perfume, or chemical odors
- Bright lights
- Aspartame artificial sweetener
- Sardines, anchovies, and pickled herring
- MSG
- Freshly baked yeast products
- Eye strain (if you wear glasses, make sure your prescription is current)
- Low blood sugar
- Chocolate
- Sour cream or yogurt
- Lack of sleep or oversleeping
- Caffeine (although coffee can also relieve a migraine)
- Weather changes
- Red wine, champagne, beer
- Cured meat (e.g., hot dogs, bacon)

Keeping a headache diary helps you to determine which factors might influence your headache pattern. The diary allows you to list the date, duration, trigger factors, treatments, and time until headache relief. Bring the diary with you to your medical visit to help your clinician determine treatment options. A sample headache diary is included on the back of this handout.

Online resources for headache information:

- headaches.org
- webmd.com
- aafp.org

Guide to Managing Migraines: Migraine Overview

More than 28 million Americans suffer from migraines. Migraine headaches typically occur between the ages of 15 and 55, and 70-80% of migraine sufferers have a family member with migraines. Migraine headaches are three to four times more common in women than in men. The higher incidence of migraines in women may be related to hormonal changes, including ovulation, menstruation, oral contraceptives, pregnancy, and menopause.

Migraines can lead to both physical pain and emotional suffering. When migraines are unpredictable, frequent, or chronic, a sufferer may become frustrated, sad, angry, or depressed. When severe, migraines can affect one's quality of life and lessen productivity in school and in the workplace.

Migraines, however, are treatable and preventable. Caring, supportive friends, family, coworkers, and health care providers can help lessen the pain of migraine sufferers. People with migraines can also help themselves by learning about their headaches, building a good working relationship with their health care provider, and practicing personal self-care.

Typical migraine characteristics include:

- Pain on one side of the head
- Pain with a pulsating or throbbing quality
- Moderate to intense pain affecting daily activity
- Nausea or vomiting
- Sensitivity to light and sound
- Attacks lasting 4 to 72 hours, sometimes longer
- Increased pain with exertion (e.g., climbing stairs)

Approximately one-fifth of migraine sufferers experience auras. An aura is characterized by warning signs appearing 30-60 minutes before the onset of headache symptoms. Aura symptoms are usually neurologic in nature and may include visual disturbances (e.g., seeing wavy lines, dots, flashing lights, or blind spots) and disruptions in smell, taste, or touch.

According to the American Medical Association, "The exact cause of migraine is uncertain, although various theories are being studied. One theory favored by many researchers is that migraine is due to a vulnerability of the nervous system to sudden changes in either your body or the environment around you. Many researchers believe that migraine sufferers have inherited a more sensitive nervous system response than those without migraine. During a migraine attack, changes in brain activity cause inflammation of blood vessels around the brain. Migraine medication may produce relief by quieting sensitive nerve pathways and reducing the inflammation process."

Migraine treatment and prevention

Migraine treatments are often categorized as pharmacological (treatment with drug therapy) and nonpharmacological (treatment without medications).

Drug therapy

Many migraine medications are available. Some medications are used to stop a migraine attack (abortive therapy). These drugs work best if taken as soon as the attack begins. Other drugs are taken daily to reduce the frequency and duration of migraines (prophylactic therapy). Your clinician can provide information on your medication options and help you determine if prophylactic medication would be helpful in your situation.

If headaches occur at or around your menses or become more frequent and intense with oral contraceptives, talk with your clinician. It is sometimes helpful to try the following over-the-counter medicine 2-3 days before the anticipated headache and continue through your menstrual cycle:

- Aleve (naproxen): 1-2 tablets (220-440 mg) every 12 hours
- Motrin (ibuprofen): 400-800 mg every 8 hours

Non-pharmacological strategies

Non-pharmacological options include strategies we can employ ourselves and treatments provided by trained practitioners. Your clinician may be able to provide referrals; some resources are also listed on the back page of this handout. These strategies can be helpful for preventing attacks as well as managing chronic migraines.

Lifestyle changes

Understanding how lifestyle impacts the severity and frequency of migraine attacks can be a large part of successful migraine prevention. The key is to develop consistent patterns for all days of the week. Lifestyle changes should be undertaken gradually and over time. Below is a list of proven strategies:

- **Sleep:** Maintain consistent sleep patterns, including on weekends and holidays. Learn how much sleep you need and try not to get too much or too little. Not getting enough sleep during the week and trying to catch up on sleep on the weekend may trigger an attack.
- **Exercise:** A routine of 20-40 minutes of aerobic exercise, 3 or more times per week, can relieve stress and help balance internal physiology.
- **Eating:** Eat regular meals, and do not skip meals. Eat a good, healthy breakfast
- **Reduce stress:** See the chart on the next page for common stress management techniques.
- **Improve posture:** Pay special attention to how you hold your neck and shoulders. For example, when working at a computer, adjust your seat and table so that you don't have to bend your neck for long periods.

Behavioral treatments

Examples of behavioral treatments include:

- **Biofeedback therapy:** A technique where people learn to sense changes in the body's activity and to use relaxation and other methods to control the body's responses
- **Coping skills:** Headache sufferers generally find cognitive restructuring (identifying negative self-talk and replacing disparaging remarks with positive ones), assertiveness training, and goal identification helpful.

The likelihood of behavioral techniques working as a preventative treatment for migraine depends upon appropriate training and discipline for the person using the technique.

Complementary treatments

- **Acupuncture/Acupressure:** Using fine metal needles or mechanical pressure, the acupuncturist manipulates the flow of energy called Chi (also spelled Qi) to help the individual return to a balanced state. Individuals can also practice Tai Chi or Qi Gong to balance Chi.
- **Manipulative procedures:** A skilled practitioner manipulates joints or muscles to reduce abnormal peripheral input to the Central Nervous System and restore kinesthetic balance. Examples include chiropractic treatment and craniosacral therapy.
- **Massage:** A massage relaxes the body, releases stress buildup in muscle tissue, and teaches body awareness.

Other treatments

Vitamins, Minerals, and Herbs: The Primary Care Network reports the following may help with migraines:

- **Riboflavin:** 400 mg per day
- **Feverfew:** 1 capsule 3-4 times per day for one month. If effective, the dosage may be slowly decreased if desired. Avoid during pregnancy and when taking NSAIDS such as ibuprofen and Aleve (naproxen).
- **Magnesium:** 400-600 mg per day
- **Vitamin B Complex:** 1 tablet per day

Migraine Triggers

"'Triggers' are specific factors that may increase your risk of having a migraine attack. The migraine sufferer has inherited a sensitive nervous system that, under certain circumstances, can lead to migraine. Triggers do not 'cause' migraine. Instead, they are thought to activate processes that cause migraine in people who are prone to the condition. A certain trigger will not induce a migraine in every person, and in a single migraine sufferer, a trigger may not cause a migraine every time. By keeping a headache diary, you can identify triggers for your headaches. Once you have identified triggers, it will be easier for you to avoid them and reduce your chances of having a migraine attack."

—American Council for Headache Education

Categories	**Triggers**	**Examples**
Dietary	● Skipping meals/fasting ● Specific foods ● Medications	Overuse of over-the-counter medications can cause rebound headaches (e.g., using ibuprofen, Excedrin Migraine more than 2 days per week). Also, missed medication doses and certain medications (e.g., nitroglycerine, indomethacin) may cause headaches.
Sleep	Changes in sleep patterns	Napping, oversleeping, too little sleep
Hormonal	Estrogen level changes and fluctuations	Menstrual cycles, birth control pills, hormone replacement therapies, peri-menopause, menopause, and ovulation
Environmental	● Weather ● Bright lights ● Odors/pollution ● Other	● Weather and temperature changes, extreme heat or cold, humidity, and barometric pressure changes. ● Bright or glaring lights, fluorescent lighting, flashing lights, or screens ● Smog, smoke, perfumes, chemical odors ● High altitude, airplane travel
Stress	● Periods of high stress, including life changes ● Accumulated stress ● Reacting quickly and easily to stress ● Repressed emotions	Factors related to stress include anxiety, worry, shock, depression, excitement, mental fatigue, loss, and grief. Both "bad stress" and "good stress" can be triggers. How we perceive and react to situations can trigger (or prevent) migraines. Other triggers can include unrealistic timelines or self-expectations.
Stress letdown	N/A	Weekends, vacations, ending a project, or stressful tasks (including presentations, papers, or exams)
Physical	● Overexertion ● Injuries ● Visual triggers ● Becoming tired or fatigued	● Over-exercising when out of shape, exercising in heat, and marathon running. ● Eyestrain (if you wear glasses, make sure your prescription is current), bright or glaring lights, fluorescent lighting, flashing lights, or computer screens.

Dietary Triggers

Food triggers do not necessarily contribute to migraines in all individuals, and particular foods may trigger attacks in certain people only on occasion. Be your own expert by keeping a journal of foods you have eaten before a migraine attack, and see whether the removal or reduction of certain foods from your diet improves your headaches. Skipping meals, fasting, and low blood sugar can also trigger migraines. If you're unable to follow a normal eating schedule, pack snacks.

Food Item	Not known to trigger migraines	Possible triggers
Beverages	Fruit juice, club soda, noncola soda (7-Up, gingerale), decaffeinated coffee, herbal tea, soy milk, rice milk. Limit caffeine sources to 2 cups/day (coffee, tea, cola).	Chocolate and cocoa. Alcoholic beverages (especially red wine, beer, and sherry). Caffeine (even in small amounts) may be a trigger for some people.
Fruits	Any fruit except those to avoid. Limit citrus fruits to ½ cup/day. Limit bananas to ½ per day.	Figs, raisins, papayas, avocados (especially if overripe), red plums, and overripe bananas.
Vegetables	Any vegetables except those to avoid.	Beans such as broad, fava, garbanzo, Italian, lima, navy, pinto, and pole. Sauerkraut, string beans, raw garlic, snow peas, olives, pickles, onions (except for flavoring).
Bread & Grains	Most commercial breads, English muffins, Melba toast, crackers, RyKrisp, and bagels. All hot and dry cereals. Grains such as rice, barley, millet, quinoa, bulgur, and cornmeal.	Freshly baked yeast bread. Fresh yeast coffee cake, doughnuts, sourdough bread. Breads and crackers containing cheese, including pizza. Any product containing chocolate or nuts.
Dairy Products	Milk (2% or skim). Cheese: American, cottage, farmer, ricotta, cream, Velveeta. Yogurt: (limit to ½ cup per day).	Cultured dairy products (buttermilk, sour cream). Chocolate milk. Cheese: blue, brick (natural), Gouda, Gruyere, mozzarella, Parmesan, provolone, Romano, Roquefort, cheddar, Swiss (emmentaler), Stilton, Brie types, and Camembert types.
Meat, fish, poultry	Fresh or frozen turkey, chicken, fish, beef, lamb, veal, pork. Egg (limit to 3 eggs/week). Tuna or tuna salad.	Aged, canned, cured, or processed meat, including ham or game, pickled herring, salted dried fish, sardines, anchovies, chicken livers, sausage, bologna, pepperoni, salami, summer sausage, hot dogs, pâté, caviar. Any food prepared with meat tenderizer, soy sauce, or brewer's yeast. Any food containing nitrates, nitrites, or tyramine.
Soups	Soups made from foods allowed in the diet, such as homemade broths.	Canned soup, soup or bouillon cubes, soup base with autolytic yeast or MSG. Read labels.
Desserts	Fruit allowed in diet. Any cake, pudding, cookies, or ice cream without chocolate or nuts. JELL-O.	Chocolate ice cream, pudding, cookies, cakes, or pies. Mincemeat pie. Nuts. Any yeast-containing doughs and pastries.
Sweets	Sugar, jelly, jam, honey, and hard candy.	
Miscellaneous	Salt in moderation, lemon juice, butter or margarine, cooking oil, whipped cream, and white vinegar. Commercial salad dressings in small amounts, as long as they don't have additives to avoid.	Nutrasweet, monosodium glutamate (MSG), yeast/yeast extract, meat tenderizer (Accent), seasoned salt, mixed dishes, pizza, cheese sauce, macaroni and cheese, beef stroganoff, cheese blintzes, lasagna, frozen TV dinners, and chocolate. Nuts and nut butters. Pumpkin, sesame, and sunflower seeds. Anything fermented, pickled, or marinated. Some aspirin medications contain caffeine. Excessive amounts of Niacin (Niacinamide is fine).

The Migraine Disability Assessment Test

The MIDAS (Migraine Disability Assessment) questionnaire was put together to help you measure the impact your headaches have on your life. The information on this questionnaire is also helpful for your primary care provider to determine the level of pain and disability caused by your headaches and to find the best treatment for you.

Instructions: Please answer the following questions about ALL of the headaches you have had over the last 3 months. Select your answer in the box next to each question. Select zero if you did not have the activity in the last 3 months.

Question	Response
In the last 3 months, on how many days did you miss work or school because of your headaches?	
In the last 3 months, how many days were your productivity at work or school reduced by half or more because of your headaches? (Do not include days you counted in question 1 where you missed work or school.)	
In the last 3 months, on how many days did you not do household work (such as housework, home repairs and maintenance, shopping, caring for children and relatives) because of your headaches?	
In the last 3 months, how many days was your productivity in household work reduced by half or more because of your headaches? (Do not include days you counted in question 3 where you did not do household work.)	
In the last 3 months, on how many days did you miss family, social, or leisure activities because of your headaches?	

_____ Total (Questions 1-5)

A. On how many days in the last 3 months did you have a headache? (If a headache lasted more than 1 day, count each day.)
B. On a scale of 0 - 10, on average, how painful were these headaches? (where 0 = no pain at all, and 10 = pain as bad as it can be.)

Scoring: After you have filled out this questionnaire, add the total number of days from questions 1-5 (ignore A and B).

MIDAS Grade	Definition	MIDAS Score
I	Little or no disability	0-5
II	Mild disability	6-10
III	Moderate disability	11-20
IV	Severe disability	21+

Please give the completed form to your clinician.

This survey was developed by Richard B. Lipton, MD, Professor of Neurology, Albert Einstein College of Medicine, New York, NY, and Walter F. Stewart, MPH, PhD, Associate Professor of Epidemiology, Johns Hopkins University, Baltimore, MD.

Headache Diary

Diaries can be a useful tool for identifying triggers, keeping track of your headaches, and helping your health care provider better understand them. The headache diary also helps monitor changes in headache frequency and severity. An online headache diary is available at headaches.org.

Date	
Time Started	
Time Ended	
Warning Signs	
Type of Pain: (e.g., piercing, throbbing, etc.)	
Intensity of Pain	Circle one: (Low) 1 2 3 4 5 6 7 8 9 (High)
Location: (e.g., between eyes, back of head, etc.)	
Treatment or Medication Taken:	
Effect of Treatment:	
Hours of Sleep:	
What I ate today:	
Events prior to headache: (e.g., strenuous activity, elevated stress, etc.)	
Comments	

Date	
Time Started	
Time Ended	
Warning Signs	
Type of Pain: (e.g., piercing, throbbing, etc.)	
Intensity of Pain	Circle one: (Low) 1 2 3 4 5 6 7 8 9 (High)
Location: (e.g., between eyes, back of head, etc.)	
Treatment or Medication Taken:	
Effect of Treatment:	
Hours of Sleep:	
What I ate today:	
Events prior to headache: (e.g., strenuous activity, elevated stress, etc.)	
Comments	

Stress Management: Emphasis & Examples

- **Relaxation:** Listening to music, spending time in nature, meditation, yoga, Tai Chi, Qi Gong, massage, breathing exercises
- **Managing Emotions:** Exercise, journal writing, creative activities, mindfulness
- **Managing Thoughts:** Thought-stopping techniques, mindfulness, positive thinking
- **Managing Obligations:** Time management, breaking large tasks into small pieces, goal setting, and assertiveness
- **Social Support and Connections with Others:** Time with friends, family, community, pets

Early warning signs

Noticing early warning signs and taking immediate action can potentially prevent or reduce the severity of the migraine. Migraines can often be preceded by symptoms (called prodrome symptoms) that can serve as early warning signs. These symptoms typically occur 6-24 hours prior to headache and may include:

- Mood changes, including depression, euphoria, and increased irritability
- Increased thirst
- Fluid retention
- Food Cravings or loss of appetite
- Sensitivity to light and sound
- Fatigue
- Restlessness
- Difficulty using or understanding words
- Talkativeness
- Neck stiffness
- Light-headedness
- Diarrhea

If you notice early warning signs, you may try to relax (see relaxation strategies on page 2) and reduce triggers (e.g., by adjusting lighting and noise levels). Your mental/emotional reaction to early warning signs is also critical. Becoming scared, anxious, or convinced you'll have a migraine can make a migraine worse. To help lessen these emotions, try to maintain a positive attitude, stay calm, and mentally allow for the possibility that a migraine may not develop.

Self-care strategies for immediate relief

- **Use cold.** Wrap a cold pack, a can of soda, or a bag of ice, and place it against the painful area or the back of your neck for up to 10 minutes. Wait twenty minutes and then repeat if desired
- **Use cold and hot together.** For example, use a cold pack on your head and neck while warming up your body from the shoulders down.
- **Reduce sensory inputs.** Shield your eyes from direct light. Reduce noise and other stimuli. Lie down in a quiet, dark room, if possible.
- **Drink plenty of liquids.** This helps avoid dehydration. Drinking flat soda may help relieve nausea.
- **Use massage.** Knead the muscles along the shoulders, neck, and back of the skull. Gently rub your head, forehead, temples, facial muscles, and jaw. Brushing your scalp lightly with a soft hairbrush can provide additional relief.

Exercise Tips

Because of its stress-relieving benefits, regular exercise can reduce the frequency of migraines. However, for some people with recurring migraines, exercise can provoke an attack. To avoid or limit the severity of exercise-induced headaches, the National Headache Foundation recommends:

- Warm up adequately before exercise
- Drink plenty of water throughout the activity and afterward
- Be aware of environmental triggers such as high altitudes, humidity, or exposure to hot or cold weather, which can trigger migraines
- Consult with your healthcare provider about your exercise regimen if you experience problems.

Four tips for getting the most from your relationship with your health care provider

1. **Educate yourself:** Learn more about headaches, their causes, and prevention and treatment options. Become familiar with your own symptoms, triggers, and patterns.
2. **Be prepared for your appointment**: Providing specific information to your clinician will facilitate your care. Be prepared to share the following information:
    a. Provide examples to explain the severity of your attacks (e.g., how often you miss school/work, ways migraine interferes with your activities, effects on your quality of life).
    b. Keep information on each attack, including symptoms, what you think may have caused the attack, and any measures that helped relieve the symptoms.
    c. List medications you are currently taking for migraine or any other medical condition, including prescription, over-the-counter, and natural remedies.
    d. Share your treatment goals with your provider
    e. Keeping a headache diary is the best way to gather information for your appointment. A sample headache diary is included in this packet. Getting to know your headache pattern can also help you feel more in control of your life.
3. **Understand your treatment plan:** Be sure you understand your treatment plan when you leave. Ask for detailed instructions for your medications, and make sure you understand how long you will need to take the drug before you should begin to notice improvement. You can also ask your provider to review the pros and cons of each medication, including potential negative reactions or other side effects. If a follow-up appointment is needed, make sure you understand when this should happen. Keeping follow-up appointments is critical to creating a successful treatment plan.
4. **Be realistic**: It is helpful to have reasonable expectations about treatment. While there is no cure for migraine, the condition can be managed with an effective treatment and self-care program. The National Headache Foundation recommends:
    a. Be patient and give the treatment time to work
    b. Realize that treatment success will ebb and flow.
    c. Be willing to listen to your clinician and to yourself, and be flexible, open-minded, and prepared to modify your treatment, as necessary.

Resources

University Health Services

- Medical appointment. (call 510.642.2000) or uhs.berkeley.edu
- Health education appointment on stress, time, and pain management. (call 510.642.2000)
- Counseling for academic, personal, and career concerns and assistance with cognitive restructuring. (3rd floor or call 510.642.9494)

Websites

- American Council for Headache Education: achenet.org
- National Headache Foundation: headaches.org

Other

- The American Council for Headache Education provides a listing of online and local support groups. Visit americanheadachesociety.org
- CalFit Program at RSF offers yoga, Tai Chi, Qi Gong, and Acupressure classes, as well as massage services. (510.643.5151)