

UNIVERSITY STUDENT HEALTH SERVICES • Fact Sheet

MIGRAINES**WHAT ARE MIGRAINES?**

Migraines are intense headaches that typically cause throbbing pain in one area of the head and are accompanied by nausea, vomiting, and/or extreme sensitivity to light or sound. Migraines are the second most common type of headache, with tension headaches being the most common. Migraines affect 12-15% of the general population and occur more frequently in women.

WHAT ARE THE SYMPTOMS?

Migraines classically progress through four stages: the prodrome, aura, headache, and postdrome, though not all stages may be present. Most migraines occur without an aura.

- **Prodrome:** Subtle warning signs may occur 1-2 days before the migraine begins. Symptoms can include mood changes, irritability, food cravings, constipation, neck stiffness, or increased yawning.
- **Aura:** About 25% of people with migraines experience auras, which are reversible neurological disturbances that occur before or during the migraine.
 - Most auras develop gradually over more than 5 minutes and last 20-60 minutes.
 - Auras are usually visual (flashing lights, bright spots, zigzag lines, or small blind spots) and may sometimes be sensory (numbness and/or tingling in one limb, one side of the face/mouth/tongue, etc).
 - Less commonly, auras may involve ringing in the ears, difficulty with speech, jerky body movements, or muscle weakness.
 - Sometimes auras occur without the headache, which can be confused with a stroke.
- **Attack:** Migraine attacks usually involve intense, throbbing pain located on one side of the head, though they can sometimes be milder and/or involve other parts of the head. They are typically accompanied by nausea, vomiting, and/or sensitivity to light, sound, or odors.
 - Symptoms are usually worse with rapid head movements and/or physical exertion.
 - Migraines usually resolve with sleep. Left untreated, they can last from 4-72 hours.
 - Attacks may occur only 1-2 times a year or up to every day.
- **Postdrome:** Patients often report feeling tired and drained after an attack. Sudden head movements may cause pain in the area of the head where the migraine occurred.

WHAT CAUSES THEM?

The exact cause of migraines is unknown.

- Current research suggests that abnormal stimulation of neurons in the brain leads to a complex cascade of events that activates the trigeminovascular system and an inflammatory response in the lining and blood vessels of the brain.
- Migraines tend to run in families. Individuals with migraines are likely to have a genetic threshold that makes them more susceptible to an attack.

WHAT ARE POSSIBLE TRIGGERS?

Many people with migraines can identify certain “triggers” that cause symptoms. Common triggers include:

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| ▪ Stress (there may be a “let down” trigger after a stressful day or week) | ▪ Alcohol (especially red wine) |
| ▪ Estrogen changes (often just before or during menstruation) | ▪ Caffeine, chocolate |
| ▪ Not eating | ▪ Nitrates (found in cured meats) |
| ▪ Changes in weather | ▪ Foods containing tyramine (aged cheeses, dried fruits, and pickled foods) |
| ▪ Sleep disturbances | ▪ Aspartame sweeteners |
| ▪ Odors, perfumes, smoke | ▪ Intense physical exertion (including sex) |
| ▪ Neck pain | ▪ Certain medications (birth control pills, Viagra, nitroglycerin, etc.) |
| ▪ Bright lights, sun glare, eye strain | |

HOW IS IT DIAGNOSED?

Migraines are diagnosed based upon your medical history, symptoms, and physical exam findings:

- Migraines without aura are diagnosed if you have had 5 or more attacks that meet symptom criteria.
- Migraines with aura are diagnosed if you have had 2 or more attacks meeting criteria.

No specific diagnostic test for migraines exists. However, labs and imaging tests may be ordered if your symptoms are unusual or concerning for other causes.

WHAT TREATMENTS ARE AVAILABLE?

Migraines cannot be cured, but a variety of effective treatment options are available to control symptoms and decrease recurrences.

❖ SELF-CARE

- **Identify and avoid triggers.** Keep a headache diary (or use a free app) if you need help identifying triggers. Record the type/location/severity of pain (on a scale of 1-10), when and what you were doing when symptoms started, how long they lasted, remedies tried, and responses to remedies. Also include details about food intake, sleep, and stress levels in the 24 hours preceding symptoms.
- **Eat, sleep, and exercise regularly.** Keeping a daily routine can help prevent migraines.
- **Reduce stress.** Relaxation techniques, aerobic exercise, and biofeedback can help decrease stress and prevent migraines.
- **Rest.** Many people find some relief lying down in a dark quiet room. Placing a cool cloth or ice pack on the forehead and neck may also help.

❖ RESCUE MEDICATIONS

Rescue medications are used to stop symptoms. They are most effective when taken at the first sign of a migraine. A large single dose tends to work better than multiple small doses. However, rescue medications should not be taken more than 2-3 times a week, as overuse can lead to rebound headaches.

Over-the-counter (OTC) Pain Medications

- OTC pain relievers known to be effective for migraines include nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (Advil or Motrin), naproxen (Aleve), and Excedrin Migraine. NSAIDs should be taken with food to avoid an upset stomach. Avoid NSAIDs if you have a history of a stomach ulcer or kidney disease.
- Acetaminophen (Tylenol) can also be effective in some patients. Avoid taking Tylenol with alcohol or if you have liver disease.

Triptans

- Triptans are a class of migraine-specific medications considered first-line for the treatment of moderate to severe migraines. They are typically used for migraines that are not responsive to OTC medications. Triptans work by blocking pain pathways in the brain and constricting blood vessels.
- Common examples include Imitrex (sumatriptan), Maxalt (rizatriptan), and Relpax (eletriptan). They are usually taken by mouth, but some triptans are available in other forms, such as nasal sprays or injections. Tablets have the slowest onset of action (30-60 minutes), while injections have the quickest onset (within minutes).
- Treximet is a combination medicine that contains generic Imitrex & Aleve and is specially formulated to last 24 hours. The combined use of a triptan and a NSAID appears to be more effective than using either drug alone.
- Triptan side effects may include nausea, dizziness, drowsiness, numbness/tingling, muscle weakness, chest tightness, and a general sensation of warmth.

- Triptans are not recommended for those who are pregnant, have uncontrolled hypertension, or are at high risk for heart attack or stroke. Triptans may be used with caution in patients with Raynaud's disease.
- There is a very low risk of serotonin syndrome/toxicity in patients taking triptans with serotonergic drugs, such as SSRIs used to treat depression/anxiety (Prozac, Zoloft, Celexa, Lexapro, etc). Stop using both types of medications together and contact your doctor immediately if you develop any concerning symptoms. These include mental status changes (anxiety, agitation, confusion), muscle spasms, tremors, fever, sweats, racing heart, vomiting, diarrhea, and rapid back-and-forth eye movements.

Other medications may be prescribed for nausea and migraines not responding to triptans.

- Nausea medications may be used in combination with rescue medications to treat symptoms.
- Newer options include medications that block pain transmission and an option for people who cannot take triptans.
- A steroid injection may be given (in addition to the rescue medication) to decrease the risk of the migraine returning in select cases.
- Opioid medications are only used as a last resort.

❖ PREVENTIVE MEDICATIONS

Medications taken on a daily basis to prevent migraines may be prescribed if symptoms occur more than 4 times a month or if they are very severe. Preventive medications can also improve responsiveness to rescue medications.

- First-line medications for migraine prevention include propranolol (a beta-blocker), amitriptyline (a tricyclic antidepressant), venlafaxine (also used for anxiety/depression) and topiramate (an anti-seizure medication). These medications often take 3-4 weeks to begin working and 3-6 months to reach their maximum effect. After symptoms are well-controlled, the dose may be tapered to see if symptoms return.
- **Menstrual migraines** are triggered by a normal drop in estrogen that occurs before the start of each period.
 - To prevent menstrual migraines that occur on a predictable basis, rescue medications may be started 1-2 days before the onset of symptoms and continued for 5 days.
 - Birth control pills containing estrogen are another preventive option in patients **without aura**. However, birth control containing estrogen should be avoided in patients **with aura** due to an increased risk of a life-threatening blood clot or stroke. Taking estrogen can also trigger migraines in some patients.

SEE YOUR HEALTHCARE PROVIDER IMMEDIATELY IF YOU HAVE:

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| ▪ Increased frequency or severity in headaches. | ▪ Headaches that start suddenly with coughing, straining, or bearing down. |
| ▪ Headaches that wake you from sleep. | ▪ Fever and/or neck stiffness. |
| ▪ New headaches, especially in the setting of cancer, weight loss, or pregnancy. | ▪ Any unusual neurological symptoms (weakness on one side of the body, double vision, decreased alertness, etc.) |

RECOMMENDED WEBSITES: americanmigrainefoundation.org, familydoctor.org, www.mayoclinic.org, www.wolterskluwer.com/en/solutions/uptodate/who-we-help/individuals/patients-caregivers