

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 up to 12% of the general population and occur more frequently in women. Symptoms can begin at any age, though most people have their first attack during adolescence.

WHAT ARE THE SYMPTOMS?

Migraines classically progress through four stages: the prodrome, aura, headache, and postdrome, though not all stages may be present.

- **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 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, zigzag lines, or small blind spots) but can also involve ringing in the ears, difficulty with speech, jerky body movements, and numbness and/or tingling of the fingers of one hand, lips, tongue, or lower face. The inability to use a body part is much less common. Sometimes auras occur without the headache, which can be confused with a stroke.
- **Attack:** Migraine headaches are usually described as intense, throbbing pain located on one side of the head, though they can sometimes be milder. 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. 10-20% of people also experience a stuffy nose, runny nose, or watery eyes. Migraines usually resolve with sleep. Left untreated, they can last anywhere 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, nicotine |
| ▪ Not eating | ▪ Monosodium glutamate (MSG) |
| ▪ Changes in weather | ▪ Nitrates (found in cured meats) |
| ▪ Sleep disturbances | ▪ Foods containing tyramine (aged cheeses, dried fruits, and pickled foods) |
| ▪ Odors, perfumes, smoke | ▪ Aspartame sweeteners |
| ▪ Neck pain | ▪ Intense physical exertion (including sex) |
| ▪ Bright lights, sun glare, eye strain | ▪ Certain medications (birth control pills, Viagra, nitroglycerin, etc.) |

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.

SELF-CARE

- **Identify and avoid triggers.** Keep a headache diary (or use a free app) to identify 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 response to remedies. Also include foods eaten in the last 24 hours, how much sleep you had, and stress levels.
- **Eat, sleep, and exercise regularly.** Regular meal times, sleep routines, and aerobic exercise can prevent migraines. Obesity may also be a contributing factor in people with frequent 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.
- **Reduce estrogen exposure.** If you think your migraines may be triggered by estrogen (eg. menstrual migraines), review your medications with your healthcare provider. Avoiding or reducing medications containing estrogen, like birth control pills, can improve symptoms. If you suffer from migraines with auras, it is best to avoid any medication containing estrogen because of the increased risk of a life-threatening blood clot or stroke.

RESCUE MEDICATIONS

A variety of rescue medications are available to stop symptoms. They are most effective when taken at the first sign of a migraine. 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** known to be effective for migraines include nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (Advil or Motrin), naproxen (Aleve), and Excedrin Migraine. Acetaminophen (Tylenol) can also be effective in some patients.
- **Triptans** are a class of migraine-specific medications available by prescription. They work by blocking pain pathways in the brain and constricting blood vessels.
 - Common examples include Imitrex, Maxalt, and Relpax. 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).
 - Triptan side effects may include nausea, dizziness, drowsiness, numbness/tingling, muscle weakness, chest tightness, and a general sensation of warmth.
 - Triptans are not recommended if you are pregnant, have Raynaud's syndrome, or are at high risk for heart attack or stroke. Triptans should also be used with caution if you smoke.
 - 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 the use of either drug alone.
- **Other medications** are available, including prescription nausea medications and pain-relievers. Opioid medications are only used as a last resort. Sometimes a steroid medication is given by injection (in addition to the rescue medication) to decrease the risk of the migraine returning.

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), and topiramate (an anti-seizure medication).
- These medications often take 3-4 weeks to begin working and 3 months to reach their maximum effect. After symptoms are well-controlled, the dose may be tapered to see if symptoms return.
- 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.

SEE YOUR HEALTHCARE PROVIDER IMMEDIATELY IF YOU HAVE:

- Recent onset or changes in headaches (increasing frequency/duration/severity, new nausea/vomiting, etc.)
- Headaches that wake you from sleep.
- Fever and/or neck stiffness.
- Headaches that start suddenly with coughing, straining, or bearing down.
- Any unusual neurological symptoms (weakness, confusion, personality changes, decreased alertness, etc.)

RECOMMENDED WEBSITES: www.americanmigrainefoundation.org, www.familydoctor.org, www.mayoclinic.org, www.uptodate.com/patients