What are migraines?

A migraine headache can cause intense throbbing or pulsing in one area of the head and is commonly accompanied by nausea, vomiting, and extreme sensitivity to light and sound. Migraine attacks can cause significant pain for hours to days and be so severe that all you can think about is finding a dark, quiet place to lie down.

Causes:

Although much about the cause of migraines isn’t understood, genetics and environmental factors seem to both play a role. Migraines may be caused by changes in the brainstem and its interactions with the trigeminal nerve, a major pain pathway. Imbalances in brain chemicals, including serotonin — which helps regulate pain in your nervous system — also may be involved. Serotonin levels drop during migraine attacks. This may trigger your trigeminal system to release substances called neuropeptides, which travel to your brain's outer covering (meninges). The result is headache pain.

Migraine headache triggers

Whatever the exact mechanism of the headaches, a number of things may trigger them. Common migraine triggers include:

- **Hormonal changes in women.** Fluctuations in estrogen seem to trigger headaches in many women with known migraines. Women with a history of migraines often report headaches immediately before or during their periods, when they have a major drop in estrogen. Others have an increased tendency to develop migraines during pregnancy or menopause. Hormonal medications — such as oral contraceptives and hormone replacement therapy — also may worsen migraines, though some women find it's beneficial to take them.
- **Foods.** Aged cheeses, salty foods and processed foods may trigger migraines. Skipping meals or fasting also can trigger attacks.
- **Food additives.** The sweetener aspartame and the preservative monosodium glutamate, found in many foods, may trigger migraines.
- **Drinks.** Alcohol, especially wine, and highly caffeinated beverages may trigger migraines.
- **Stress.** Stress at work or home can instigate migraines.
- **Sensory stimuli.** Bright lights and sun glare can induce migraines, as can loud sounds. Unusual smells — including pleasant scents, such as perfume, and unpleasant odors, such as paint thinner and secondhand smoke — can also trigger migraines.
- **Changes in wake-sleep pattern.** Either missing sleep or getting too much sleep may serve as a trigger for migraines in some individuals, as can jet lag.
- **Physical factors.** Intense physical exertion, including sexual activity, may provoke migraines.
- **Changes in the environment.** A change of weather or barometric pressure can prompt a migraine.
- **Medications.** Oral contraceptives and vasodilators, such as nitroglycerin, can aggravate migraines.
Symptoms:

Migraine headaches often begin in childhood, adolescence or early adulthood. Migraines may progress through four stages — prodrome, aura, attack and postdrome — though you may not experience all the stages.

Prodrome
One or two days before a migraine, you may notice subtle changes that may signify an oncoming migraine, including:

- Constipation
- Depression
- Diarrhea
- Food cravings
- Hyperactivity
- Irritability
- Neck stiffness

Aura
Most people experience migraine headaches without aura. Auras are usually visual but can also be sensory, motor or verbal disturbances. Each of these symptoms typically begins gradually, builds up over several minutes, then commonly lasts for 10 to 30 minutes. Examples of aura include:

- Visual phenomena, such as seeing various shapes, bright spots or flashes of light
- Vision loss
- Pins and needles sensations in an arm or leg
- Speech or language problems

Less commonly, an aura may be associated with aphasia or limb weakness (hemiplegic migraine).

Attack
When untreated, a migraine typically lasts from four to 72 hours, but the frequency with which headaches occur varies from person to person. You may have migraines several times a month or much less frequently. During a migraine, you may experience some of the following symptoms:

- Pain on one side of your head
- Pain that has a pulsating, throbbing quality
- Sensitivity to light, sounds and sometimes smells
- Nausea and vomiting
- Blurred vision
- Diarrhea
- Lightheadedness, sometimes followed by fainting

Postdrome
The final phase — known as postdrome — occurs after a migraine attack, when you may feel drained and washed out, though some people report feeling mildly euphoric.

When to see a doctor:
Migraine headaches are often undiagnosed and untreated. If you regularly experience signs and symptoms of migraine attacks, keep a record of your attacks and how you treated them. Then make an appointment with your doctor to discuss your headaches and decide on a treatment plan.

Even if you have a history of headaches, see your doctor if the pattern changes or your headaches suddenly feel different.
See your doctor immediately or go to the emergency room if you have any of the following signs and symptoms, which may indicate other, more serious medical problems:

- An abrupt, severe headache like a thunderclap
- Headache with fever, stiff neck, rash, mental confusion, seizures, double vision, weakness, numbness or trouble speaking
- Headache after a head injury, especially if the headache gets worse
- A chronic headache that is worse after coughing, exertion, straining or a sudden movement
- New headache pain if you're older than 50

Risk factors:

Several factors make you more prone to having migraines.

- **Family history.** Up to 90 percent of people with migraines have a family history of migraine attacks. If one or both of your parents have migraines, there's a good chance you will, too.
- **Age.** Migraine can begin at any age, though most people experience their first migraine during adolescence. By age 40, most people with migraine have had their first attack.
- **Gender.** Women are three times more likely to have migraines. Headaches tend to affect boys more than girls during childhood, but by the time of puberty, more girls are affected.
- **Hormonal changes.** If you're a woman who has migraines, you may find that your headaches begin just before or shortly after onset of menstruation. They may also change during pregnancy or menopause. Some women report that their migraine attacks got worse during the first trimester of a pregnancy, though for many, the attacks improved during later stages in the pregnancy.

Complications:

Sometimes your efforts to control your pain cause problems.

- **Abdominal problems.** Certain pain relievers, such as ibuprofen (Advil, Motrin, others), may cause abdominal pain, bleeding and ulcers — especially if taken in large doses or for a long period of time.
- **Medication-overuse headaches.** If you take over-the-counter or prescription headache medications more than 10 days a month for three months, or in high doses, you may be setting yourself up for a serious complication known as medication-overuse headaches. Medication-overuse headaches occur when medications not only stop relieving pain but also cause headaches. You then use more pain medication, which continues the cycle.
- **Serotonin syndrome.** Serotonin syndrome is a rare, potentially life-threatening condition that occurs when your body has too much serotonin, which is a chemical found in your nervous system. It may occur if you take migraine medications called triptans and antidepressants known as selective serotonin reuptake inhibitors (SSRIs) or serotonin and norepinephrine reuptake inhibitors (SNRIs). These medications naturally raise serotonin levels. When combined, they cause increased serotonin levels in your system, more than if you were taking one of these medications. Triptans include medications such as sumatriptan (Imitrex) or zolmitriptan (Zomig). Some common SSRIs include sertraline (Zoloft), fluoxetine (Sarafem, Prozac) and paroxetine (Paxil). SNRIs include duloxetine (Cymbalta) and venlafaxine (Effexor XR).

Tests and diagnosis:

If you have migraines or a family history of migraine headaches, your doctor trained in treating headaches (neurologist) will likely diagnose the condition on the basis of your medical history, a review of your symptoms, and a physical and neurological examination.

Your doctor may also recommend a variety of tests to rule out other possible causes for your pain if your condition is unusual, complex or suddenly becomes severe.
• **Blood tests.** Your doctor may order blood tests to test for blood vessel problems, infections in your spinal cord or brain, and toxins in your system.

• **Computerized tomography (CT).** A CT scan uses a series of X-rays to create detailed cross-sectional images of your brain. This helps doctors diagnose tumors, infections, brain damage, bleeding in your brain and other possible medical problems that may be causing your headaches.

• **Magnetic resonance imaging (MRI).** An MRI uses a powerful magnetic field and radio waves to produce detailed images of your brain and blood vessels. MRI scans help doctors diagnose tumors, strokes, bleeding in your brain, infections, and other brain and nervous system (neurological) conditions.

• **Spinal tap (lumbar puncture).** If your doctor suspects an underlying condition, such as infections or bleeding in your brain, he or she may recommend a spinal tap (lumbar puncture). In this procedure, a thin needle is inserted between two vertebrae in your lower back to extract a sample of cerebrospinal fluid for laboratory analysis.

**Treatments and drugs:**

A variety of drugs have been specifically designed to treat migraines. In addition, some drugs commonly used to treat other conditions also may help relieve or prevent migraines. Medications used to combat migraines fall into two broad categories:

• **Pain-relieving medications.** Also known as acute or abortive treatment, these types of drugs are taken during migraine attacks and are designed to stop symptoms that have already begun.

• **Preventive medications.** These types of drugs are taken regularly, often on a daily basis, to reduce the severity or frequency of migraines.

Choosing a strategy to manage your migraines depends on the frequency and severity of your headaches, the degree of disability your headaches cause, and your other medical conditions.

Some medications aren’t recommended if you’re pregnant or breast-feeding. Some aren’t used for children. Your doctor can help find the right medication for you.

**Pain-relieving medications**

For the most effective results, take pain-relieving drugs as soon as you experience signs or symptoms of a migraine. It may help if you rest or sleep in a dark room after taking them. Medications include:

• **Pain relievers.** Aspirin, or nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen (Advil, Motrin IB, others), may help relieve mild migraines. Pain relievers, such as acetaminophen (Tylenol, others), also may help relieve mild migraines in some people. Drugs marketed specifically for migraines, such as the combination of acetaminophen, aspirin and caffeine (Excedrin Migraine), also may ease moderate migraine pain, but aren’t effective alone for severe migraines. If taken too often or for long periods of time, these medications can lead to ulcers, gastrointestinal bleeding and medication-overuse headaches. The prescription pain reliever indomethacin may help thwart a migraine headache and is available in suppository form, which may be helpful if you’re nauseated.

• **Triptans.** Many people with migraine attacks use triptans to treat their migraines. Triptans work by promoting constriction of blood vessels and blocking pain pathways in the brain. Triptans effectively relieve the pain and other symptoms that are associated with migraines. Medications include sumatriptan (Imitrex), rizatriptan (Maxalt), almotriptan (Axert), naratriptan (Amerge), zolmitriptan (Zomig), frovatriptan (Frova) and eletriptan (Relpax). Some triptans are available as nasal sprays and injections, in addition to tablets. Side effects of triptans include nausea, dizziness, drowsiness and muscle weakness. They aren’t recommended for people at risk of strokes and heart attacks. A single-tablet combination of sumatriptan and naproxen sodium (Treximet) has proved to be more effective in relieving migraine symptoms than either medication on its own.

• **Ergots.** Ergotamine and caffeine combination drugs (Migergot, Cafergot) are less effective than triptans. Ergots seem most effective in those whose pain lasts for more than 48 hours. Ergotamine may cause worsened nausea and vomiting related to your migraines and other side effects, and it may also lead to medication-overuse headaches. Dihydroergotamine (D.H.E. 45, Migranal) is an ergot derivative that is more effective and has fewer side effects than ergotamine. It’s available as a nasal spray and in
injection form. This medication may cause fewer side effects than ergotamine and is less likely to lead to medication-overuse headaches.

- **Anti-nausea medications.** Because migraines are often accompanied by nausea, with or without vomiting, medication for nausea is appropriate and is usually combined with other medications. Frequently prescribed medications are chlorpromazine, metoclopramide (Reglan) or prochlorperazine (Compro).
- **Opioid medications.** Opioid medications containing narcotics, particularly codeine, are sometimes used to treat migraine headache pain for people who can’t take triptans or ergot. Narcotics are habit-forming and are usually used only as a last resort.
- **Glucocorticoids (prednisone, dexamethasone).** A glucocorticoid may be used in conjunction with other medications to improve pain relief. Because of the risk of steroid toxicity, glucocorticoids shouldn’t be used frequently.

**Preventive medications**

You may be a candidate for preventive therapy if you have four or more debilitating attacks a month, if attacks last more than 12 hours, if pain-relieving medications aren’t helping, or if your migraine signs and symptoms include a prolonged aura or numbness and weakness.

Preventive medications can reduce the frequency, severity and length of migraines and may increase the effectiveness of symptom-relieving medicines used during migraine attacks. Your doctor may recommend that you take preventive medications daily, or only when a predictable trigger, such as menstruation, is approaching.

In most cases, preventive medications don’t stop headaches completely, and some drugs cause serious side effects. If you have had good results from preventive medicine and your migraines are well controlled, your doctor may recommend tapering off the medication to see if your migraines return without it.

To prevent or reduce the frequency of your migraines, take these medications as your doctor recommends:

- **Cardiovascular drugs.** Beta blockers, which are commonly used to treat high blood pressure and coronary artery disease, may reduce the frequency and severity of migraines. The beta blockers propranolol (Inderal La, Innopran XL, others), metoprolol tartrate (Lopressor) and timolol (Betimol) have proved effective for preventing migraines. Other beta blockers are also sometimes used for treatment of migraine. You may not notice improvement in symptoms for several weeks after taking these medications. If you're older than age 60, use tobacco, or have certain heart or blood vessel conditions, doctors may recommend you take alternate medications instead of beta blockers. Another class of cardiovascular medications (calcium channel blockers) used to treat high blood pressure and keep blood vessels from becoming narrow or wide, also may be helpful in preventing migraines and relieving symptoms from migraines. Verapamil (Calan, Verelan, others) is a calcium channel blocker that may help you. In addition, the angiotensin-converting enzyme inhibitor lisinopril (Zestril) may be useful in reducing the length and severity of migraines. Researchers don’t understand exactly why these cardiovascular medications prevent migraine attacks.

- **Antidepressants.** Certain antidepressants help to prevent some types of headaches, including migraines. Tricyclic antidepressants may be effective in preventing migraines. You don’t have to have depression to benefit from these drugs. Tricyclic antidepressants may reduce the frequency of migraine headaches by affecting the level of serotonin and other brain chemicals. Amitriptyline is the only tricyclic antidepressant proved to effectively prevent migraine headaches. Other tricyclic antidepressants are sometimes used because they may have fewer side effects than amitriptyline. These medications can cause dryness of mouth, constipation, weight gain and other side effects. Another class of antidepressants called selective serotonin reuptake inhibitors hasn’t been proved to be effective for migraine headache prevention. However, research suggests that one serotonin and norepinephrine reuptake inhibitor, venlafaxine (Effexor XR), may be helpful in preventing migraines.

- **Anti-seizure drugs.** Some anti-seizure drugs, such as valproate sodium (Depacon) and topiramate (Topamax), seem to reduce the frequency of migraine headaches. In high doses, however, these anti-seizure drugs may cause side effects. Valproate sodium may cause nausea, tremor, weight gain, hair loss and dizziness. Valproate products should not be used in pregnant women for prevention of
migraine headaches. Topiramate may cause diarrhea, nausea, weight loss, memory difficulties and concentration problems.

- **OnabotulinumtoxinA (Botox).** OnabotulinumtoxinA (Botox) has been shown to be helpful in treating chronic migraine headaches in adults. During this procedure, injections are made in muscles of the forehead and neck. When this is effective, the treatment usually needs to be repeated every 12 weeks.

- **Pain relievers.** Taking nonsteroidal anti-inflammatory drugs, especially naproxen (Naprosyn), may help prevent migraines and reduce symptoms.

**Lifestyle and home remedies:**

Self-care measures can help ease the pain of a migraine headache.

- **Try muscle relaxation exercises.** Relaxation may help ease the pain of a migraine headache. Relaxation techniques may include progressive muscle relaxation, meditation or yoga.

- **Get enough sleep, but don't oversleep.** Get an adequate amount of sleep each night. It's best to go to bed and wake up at regular times, as well.

- **Rest and relax.** If possible, rest in a dark, quiet room when you feel a headache coming on. Place an ice pack wrapped in a cloth on the back of your neck and apply gentle pressure to painful areas on your scalp.

- **Keep a headache diary.** Continue keeping your headache diary even after you see your doctor. It will help you learn more about what triggers your migraines and what treatment is most effective.

**Alternative medicine:**

Nontraditional therapies may be helpful if you have chronic migraine pain:

- **Acupuncture.** In this treatment, a practitioner inserts many thin, disposable needles into several areas of your skin at defined points. Clinical trials have found that acupuncture may be helpful for headache pain.

- **Biofeedback.** Biofeedback appears to be especially effective in relieving migraine pain. This relaxation technique uses special equipment to teach you how to monitor and control certain physical responses related to stress, such as muscle tension.

- **Manual therapy.** Massage and chiropractic treatments may help reduce the frequency of migraines. And it can improve the quality of your sleep, which can, in turn, help prevent migraine attacks.

- **Herbs, vitamins and minerals.** There is some evidence that the herbs feverfew and butterbur may prevent migraines or reduce their severity. Another herb, feverfew, may help prevent migraines, but it has shown mixed results in studies. A high dose of riboflavin (vitamin B-2) also may prevent migraines by correcting tiny deficiencies in the brain cells. Coenzyme Q10 supplements may decrease the frequency of migraines, but they have little effect on the severity of the headache. Due to low magnesium levels in some people with migraines, magnesium supplements have been used, but with mixed results. Ask your doctor if these treatments are right for you. Don't use feverfew, riboflavin or butterbur if you're pregnant or without first talking with your doctor.

If symptoms do not improve in 72 hours or worsen, please call or return to health services. If your condition becomes urgent after business hours,

- Contact security 724-852-3303 and/or your Resident Director
- MedExpress Urgent Care is open 7 days a week 8am-8pm
  - Phone number: (724) 852-6391
- Washington Health System Greene Emergency Department is open 24 hours

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<td>Monday – Friday: 9:30am – 4:30pm</td>
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