Migraine

Definition

A migraine headache can cause intense throbbing or a pulsing sensation 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.

Some migraines are preceded or accompanied by sensory warning symptoms (aura), such as flashes of light, blind spots, or tingling in your arm or leg.

Medications can help reduce the frequency and severity of migraines. If treatment hasn't worked for you in the past, talk to your doctor about trying a different migraine headache medication. The right medicines, combined with self-help remedies and lifestyle changes, may make a big difference.

Symptoms

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

Prodrome

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

- Constipation
- Depression
- Food cravings
- Hyperactivity
- Irritability
- Neck stiffness
- Uncontrollable yawning

Aura

Aura may occur before or during migraine headaches. Auras are nervous system symptoms that are usually visual disturbances, such as flashes of light. Sometimes auras can also be touching sensations (sensory), movement (motor) or speech (verbal) disturbances. Most people experience migraine headaches without aura. Each of these symptoms usually begins gradually, builds up over several minutes, and then commonly lasts for 20 to 60 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 (aphasia)

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

Attack

When untreated, a migraine usually 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 often. During a migraine, you may experience the following symptoms:

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

Postdrome

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

Causes

Although much about the cause of migraines isn't understood, genetics and environmental factors appear to 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. Researchers continue to study the role of serotonin in migraines.

Serotonin levels drop during migraine attacks. This may cause 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. Some women, however, may find their migraines occur less often when taking these medications.

- **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 cause migraines.
- **Sensory stimuli.** Bright lights and sun glare can induce migraines, as can loud sounds. Unusual smells — including perfume, paint thinner, secondhand smoke and others — can trigger migraines in some people.
- **Changes in wake-sleep pattern.** Missing sleep or getting too much sleep may trigger migraines in some people, 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.

Treatments and drugs

Migraines can't be cured, but doctors will work with you to help you manage your condition.

A variety of medications 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 medications aren't given to 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.

Prevention

Whether or not you take preventive medications, you may benefit from lifestyle changes that can help reduce the number and severity of migraines. One or more of these suggestions may be helpful for you:

- **Avoid triggers.** If certain foods or odors seem to have triggered your migraines in the past, avoid them.

  Your doctor may recommend you reduce your caffeine and alcohol intake and avoid tobacco.

In general, establish a daily routine with regular sleep patterns and regular meals. In addition, try to control stress.

- **Exercise regularly.** Regular aerobic exercise reduces tension and can help prevent migraines. If your doctor agrees, choose any aerobic exercise you enjoy, including walking, swimming and cycling. Warm up slowly, however, because sudden, intense exercise can cause headaches.

  Obesity is also thought to be a factor in migraine headaches, and regular exercise can help you maintain a healthy weight or lose weight.

- **Reduce the effects of estrogen.** If you're a woman who has migraines and estrogen seems to trigger or make your headaches worse, you may want to avoid or reduce the medications you take that contain estrogen.

  These medications include birth control pills and hormone replacement therapy. Talk with your doctor about the appropriate alternatives or dosages for you.